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The Economy of Feeding.

On a farm of one hundred and sixty acres of which we may suppose one hundred and twenty acres are cleared, and produce crops of either grain or grass, three kinds of stock are necessary, and usually kept. These are

1. The working stock, consisting of horses or oxen.
2. The breeding stock, which may be either horses, cattle, sheep or swine, or all four.
3. The fattening or market stock, from the sale of which comes a large part of the profits of the farm.

It is obvious that each of the three classes will require a different kind of treatment and care; and that the food allotted to each must be adapted in the greatest degree to suit the design of the farmer. It must be admitted that each of the several classes must not only be proportioned to each other, but also to the amount of food furnished by the division of the farm, and its adaptability to raise crops.

We find a very great difference in the practice of farmers in this respect, on the same kinds of land, and also a very little real knowledge as to the quantity of stock which might be sold from a given number of acres. Very few are able to make the most of the food they raise; and the quantity of food wasted in the state of Michigan, and which yields no return in either work or meat is enormous. We wish to draw attention to the subject, because according to the principle that a dollar saved is a dollar earned, we believe that our farmers might save the whole amount of their taxes, were they to practice a true economy in the science of feeding.

In the December number of the *Farmer* we published the report of the committee on farms in St. Joseph county. By that report it will be seen that on two farms of nearly equal extent, the stock was very light. On one of these farms

The working stock consisted of 3 horses and 2 oxen.....5 head
The breeding stock was 3 cows, 80 ewes and one brood sow
or equal to neat stock.....14 "
The fattening or market stock was colts 2, young cattle 10,
sheep 10, hogs 7, or.....15 "

Total stock equal to neat cattle.....31 head
On the other farm namely that of Mr. Klein, the

stock was as follows : —

The working stock four horses	4 head
Breeding stock, 1 stallion milch cows 4, sheep 43	13 "
Market stock 2 colts, 7 yearlings, 7 calves, 20 hogs,	14 "

Total stock reckoned as head of neat cattle..... 31 head

On the first farm there were 160 acres in cultivation, and it averaged therefore four and one-third acres to each head of stock. The other had 200 acres of as neat fenced, well tilled land as can be found any where, and on it there was an average of six and a half acres to each animal. On these farms there was no manure drawn on them from other localities, and had the first been divided into a six year rotation, there would only have been the manure of a single animal to two thirds of an acre, as such a rotation would require about 25 or 26 acres to be broken up each year.

On the second farm the rotation of six years would require 33 acres to be broken up each year and there would be less than the manure of a single head of neat stock to apply to each acre once in six years. Is it any wonder that with such treatment lands the most fertile become so worn out, that their crops become the prey of vermin? It is well known amongst farmers that vermin, lice, and noxious insects, infest and prey most upon the stock that is kept so poor it can hardly stand alone, leaving only the bones and the hide as the owner's share. It is the same with crops, where the land is starved by bad treatment, they become infested with all sorts of diseases, and the insects barely leave the chaff and the straw to the farmer who complains more earnestly of his luck than his want of judgment.

But there are farms that do better, with a different treatment, however. Mr. David Uhl has a farm on what is called the Ypsilanti plains. The soil is light, friable, and somewhat similar to much of the opening lands throughout the state. This farm consists of 160 acres nearly all of which is under cultivation. On this farm the present winter there are kept

Working stock—2 horses	2 head
Breeding stock—1 bull, 7 cows	8 "
Young and fattening stock—11 calves, 7 yearlings, 9 two-year olds, 2 oxen, 6 steers, 3 two year old colts, 2 yearling colts, 14 hogs,	43 "

53

Reckoning the calves and yearlings equal to but one head for each two, and there are forty-five head altogether, or nearly one to every three acres of the farm. This farm in proportion to its size we consider one of the best stocked in the State, and as a consequence it is growing richer and more able to bear crops each year.

Besides it must be considered that when compared with the farms just mentioned, the summers stock, with the exception of hogs is not included, there being generally a larger number of horses—a pair of three year old colts, and a pair of four year olds having been disposed of during the past season.

The economy in keeping this amount of stock

consists in the crops which it enables the owner to grow. During the past year seventeen acres of corn, mostly eight-rowed White Flint yielded 2000 bushels of ears, or 118 bushels to the acre, whilst his wheat averaged 29 bushels and his hay gave an equally luxuriant yield.

We do not now believe that this farm is as fully stocked as it will yet be, or that the limit of its production of meat has been reached. The question yet to be solved is whether with a larger amount invested in the proper fixtures and for labor, a still higher and more remunerative system might not be adopted and carried on. It will be seen that it now supports nearly twice as many head on the same number of acres as one of the St. Joseph county farms. But let us look at the amount fodder it should yield, and what could be made of it.

Allow 70 acres of it for pasture, there would remain 20 acres for wheat, 20 acres for corn and roots, 10 acres for oats, and 40 acres of hay, which yield pretty nearly as follows : —

20 acres of wheat straw at 1½ tons per acre	30 tons of fodder
20 acres of corn stalks 2 tons per acre	40 do
10 acres of oats 1½ tons per acre	15 do
40 acres of hay, 2½ tons per acre	100 do

185 tons

This makes 370,000 pounds, which is to be consumed in food or litter by 45 full grown animals, in 180 days, making at the rate of over a ton per day for the whole, or more than 40 pounds to each animal exclusive of oats, corn, or bran, of which, if all fed, there would be an allowance of full 6 quarts per day as an average.

Allowing each animal to consume per day, 10 lbs of straw as litter, and 20 pounds of hay and cornstalks or straw as food, and 7 pounds of corn or its equivalent in other substances, there ought to be sustained on these crops for each 180 days, at least 70 head or an equivalent, leaving to each four quarts of grain, and all the oat and wheat straw for litter. Of course the profit on the extra head ought to pay for the extra help necessary to feed; and were steam made use of to render all the food as nutritious as possible it is altogether probable that the number might be still larger especially as the power of developing the fertility of the land by ample manuring would be increased enormously. Would it not be well for farmers to calculate the cost of waste in the management of their farms, instead of grumbling at the tax collector?

The Horse Stock of Michigan—Concluded.

In the December number, we had room only for the letter of Mr. A. Y. Moore to Mr. Herbert; in this number we give the concluding portion of the chapter on the "Horse Stock of Michigan," consisting of letters from W. S. H. Welton, of Grand Rapids, but whose name is printed "Pelton" in the book, by a typographical error; from John Starkweather of Ypsilanti; from Eben Adams of Adrian,

and from Dr. Charles Jeffries of Dexter. Mr. Starkweather's letter is the best of the lot and really furnishes the most information as to the history of the horse in Michigan we have. The two last letters are confined almost entirely to a list of the horses which either are or have been in the stables of the writers, and give but little information as to the introduction or breeding of horses in the neighborhood.

All the writers seem to have ignored the attempt of Mr. E. M. Crippen to improve the stock of Southern Michigan. In the autumn of 1855, Mr. Crippen brought into Branch county, a gray mare named Alice, which was purchased from L. G. Movius of Mount Fordham. She had a filly by her side at that time, sired by Monarch: this filly was considered very like the sire, and when we saw her last spring in the possession of Mr. John Allen of Coldwater, gave promise of being a mare of great beauty and action. A sorrel filly named Highflyer, out of Alice, and sired by imported Trustee, was spoken of very well, when brought in, but we have not seen her, nor heard of her since, but we believe she is still near Coldwater. Mr. Crippen also brought into the State at that time, a Hambletonian mare with a colt sired by Kennebec, a trotting stallion of great repute at the east, of direct Messenger descent. Besides these mares, Mr. Crippen also brought in a young stallion, sired by Trustee; his dam was a mare noted on Long Island for some speed as a trotter, and named Jenny Lind. The colt is a handsome light bay, but does not seem to possess the vigor or size necessary to be useful. We saw him a few weeks ago at Kalamazoo, and were much disappointed at his want of development, his small size, and lack of firmness in muscle, and narrowness of chest. He does not seem to have done credit to his pedigree, and we think has suffered from want of exercise, and having been used for breeding purposes at an age when he should have been worked moderately to give him a chance to expand and grow. A young black stallion named Sherman Black Hawk Junior, a grandson of old Black Hawk, and a son of Sherman Black Hawk, from a mare weighing 1100 pounds sired by Pilgrim Morgan, was also brought into the State by Mr. Crippen, from Vermont. This animal took the first prize in trotting at the trial of four year olds at the State fair in 1856, and is undoubtedly one of the best Black Hawks in the State; but he too wants some exercise, and a better chance to show what is really in him.

We make this note of what Mr. Crippen has done, because we see that while ample mention is made of others, the stock brought in by him appears to have been forgotten or overlooked, and though not successful in carrying out the design of forming a large stable of breeding horses, still the stock was spread over the locality, and will undoubtedly prove bene-

ficial in giving style, endurance and action to the horses of a section of the State.

It is hoped that those who have facts relative to the introduction of horses of particular breeds, or qualities into the State will not be backward in putting them on record as at some future time they may prove of great value and interest. With these prefatory remarks we give the letters of the gentlemen above named:

GRAND RAPIDS, February, 20th, 1856.

A. Y. MOORE, Esq., *Dear Sir*,—Your favor of yesterday is received. I am sorry that I can impart so little information from this section of our State which will be of any moment to Mr. Herbert. You are aware that we do not raise anything like horses enough here to supply the local demand. Hundreds of horses are brought to this place every year for sale from Ohio, Indiana, Illinois and southern Michigan. We have now at work daily in our streets two Morgan horses, which are known to be over 30 years old, and they are still hale and vigorous. They were brought from Vermont. We have also several Messenger horses, which were brought here at an early day, and although they have attained a great age, they still retain their vigor, and plainly show the distinctive characteristics of the Messengers. Most of our stallions have been raised here, although we have a few which have been brought from New York and Ohio. We have no thoroughbred horses in this part of the State, and but few stallions whose owners can show a well authenticated pedigree. The only breed of horses which lay claim to fleetness, are a stock known by the name of Bay Roman. They are small, but exceedingly fine. There is no race-course in this section of our State. If this meagre description of the horses in our section of the State is of any consequence, it is cheerfully given.

W. S. H. WELTON.

YPSILANTI, March, 8, 1856.

A. Y. MOORE, Esq.,—I received your letter of the 28th February on Saturday, and hasten to reply.

In that portion of our State bordering on the great lakes and rivers, which was early settled by the French, the Norman, or better known, the French horse, was the first introduced. By long neglecting that judicious course of breeding which is a sure guarantee for the perfection of this most noble animal, they have degenerated into a most miserable form; and lost the type of his ancient prototype—though in truth may it be said, that he yet possesses wonderful powers of endurance on scanty fare—and have proved themselves superior to our English horses, for journeying across our plains to the Pacific. High grooming adds but little to their qualities, while with the better bred horse it is all-important, and nine times in ten proper fitting and training wins the race. It is desirable that some skillful hand should yet awake from his Rip Van Winkle sleep, and cause this breed of horses to take a more prominent position in the family of his kind. They are well adapted for most kinds of farm work, and possess the advantages of thorough acclimatizing, longevity, soundness of limb, and docility; they are, however, below the medium size, wanting of action and of that gay appearance which fills the eye of the connoisseur. They may be emphatically termed the poor man's horse, and are hence, if hence only, a desirable family.

Our best breed of horses in this county formerly came from the Middle and Eastern States. Occasionally can be met one that shows his breeding from Messenger all over. They are, however, rare; we almost reverence such an animal. The tales of our father, now no more, instinctively rush in memory, concerning his faithful and enduring Messenger, while a soldier in his country's service. Never will our hand forget to imitate his example, in showing kind and gentle treatment to this noble animal. The Messenger stock has indelibly stamped its excellence on most of our first-class horses; though we have none here that can show their pedigree with certainty. Our county also, previous to the introduction of the blood horses owned by Mr. Andrews, struck out of the list of premiums this class, simply from the fact that none could show reliable pedigrees. Moreover, the animal's appearance, when exhibited, belied the thorough bred parentage claimed by his owner. Thus it will be seen that our horses are of no known parentage; yet we have many good horses, and some of them have shown speed. "Frank Hays" was bred in the county. "Shave Tail, or the Cincinnati Pet," was also raised here, from a French mare and Hamilton's "Hickory," the latter claiming thorough blood, but we doubt it. Nothing is known of Frank Hays's parentage; he possessed wonderful foot, but would choke down, consequently was not reliable on the turf. Old Bay Roman was owned at Plymouth, in Wayne county, for ten or twelve years; he was undoubtedly thoroughbred, having run his mile in less time than any horse on record in this country—so says the Spirit of the Times. As a stock-getter, he was inferior, and but few can boast of improvement by using him, many of his colts failing in the limbs.

The most noted stallions in this country at the present time are those claiming Black Hawk Morgan as their sire. One at this place, owned by Mr. Turner, can trot his mile in three minutes, full 15½ hands high, and weighs 1100 pounds in medium condition. Good horse judges look at him favorably, and freely express their opinion that his stock will be an improvement. It must be admitted, however, that such opinions are not always sure indications of such an event. It is one thing to express ourselves regarding the improvement of the horse; it is quite another thing—and much more difficult—to accomplish the task. There is also one owned by Mr. Newland, of Ann Arbor, much similar to the one I have described, and a full size larger; they are, doubtless, as represented by their owners. Besides, there is the chestnut stallion owned by Mr. Andrews of Detroit; he is now in the possession of Doct. Jeffries of Dexter, being the only animal of his class that has recently come under my observation, which I think worthy of special notice. There are no other horses in this section, I know of, possessing distinct characteristics, except those named. There is no race-course in this county, but there is one at Adrian.

Gov. Porter, while Michigan Territorial Governor, introduced several thoroughbred horses from the South; but this worthy enterprise proved of little advantage, in consequence of the death of Gov. Porter, which occurred shortly after their introduction. The late Thomas Sheldon, Esq., regarded them with high favor, and made strenuous efforts to have farms cross them on our common mares. They were, however, viewed with distrust by the majority. Thus his efforts were of no permanent benefit. A

portion of the stock were taken back South; those retained here were Kippalo and Lexington, the former a brown horse, the latter a grey. Lexington produced some excellent market horses. It has long been my opinion that an infusion of the thoroughbred English race-horse blood is indispensable to the perpetuity of first-class horses in this country, even for general purposes; and it is to be regretted that so little skill is manifested in the science of breeding them here. In sheep-husbandry and the science of breeding sheep, we are a match for our contemporaries of the Old World; but when we come to horses, neat stock, and swine, we are deficient. Many claim that our horses are fully equal, in the aggregate, to those of any other country. This may be so. One thing is certain—that we are at a loss to give their history; hence it may be inferred that their excellence is as likely to be the result of chance as of skillful breeding. If frequent crossing be of permanent benefit, we are entitled to much praise, for it is seldom that a farmer puts his mare to the same horse the second time. Yours truly, J. STARKWEATHER.

ADRIAN, March 3, 1856.

A. Y. MOORE, Esq., Sir,—Yours of February 27th is at hand, and contents noticed; but I must say that I am not in possession of the necessary information to assist you much in your undertaking. Still, I might say that we are much in want of blood horses in our county. There is a sorrel horse that is owned by a Mr. Beman, of this county, called Constellation, said to be thoroughbred, brought here last spring by a Mr. Mason, now in Detroit. In Coldwater, Branch county, Mr. A. C. Fisk has two Black Hawk stallions; also Frederick Smith has a nice stallion, said to be good blooded. I have no stallion at the present time. I have a pair of bays valued at \$2000; also a pair of bays, \$1500; also a pair of greys, \$1200; also a pair of blacks, \$800; also some half dozen nice single horses, ranging in value from \$250 to \$600 a piece. I sold a pair of bays four years ago to S. Douglas for \$1000; also, a year ago last December, a large prime pair of brown geldings to N. C. Baldwin, of Cleveland, for \$1200; also this last fall I sold a gelding, Chautauque Chief, to Mr. James Carlisle, of Toledo, Ohio, for \$2500; also Charley Howard, a brown gelding trotter, for \$1500; also a brown trotting gelding, Dan. Barrett, for \$450; also a black gelding trotter, called Frank Hubbard, \$600; and a brown mare trotter, called Olive Rose, \$600.

A pretty good stable of speed, all of which can spoil three minutes in harness on the trot.

There is a race course on my farm, established three years ago, called the Prairie Trotting Course, which has and is doing very much to improve the stock of horses in this county. Yours truly,

E. ADAMS

DEXTER, March 22, 1856.

ANDREW Y. MOORE, Esq., Dear Sir,—It is with much pleasure that I comply with your request, to give you the pedigree and performances of the blood stock owned by Mr. H. R. Andrews and myself. You must excuse the delay; it was in consequence of my absence in the northern wilds of Michigan.

I will commence with Bob Letcher. Bob Letcher, b. h., by Medoc, dam by Rattler. The only race of Bob's that I have a record of is reported in Mason's Stud Book, and was run on the Lexington Course, Kentucky, May 26, 1843; three-mile heats;

time, 5.52—5.46—6.12—5.51. His time in other races can be obtained by reference to the "Spirit of the Times." Died Nov., 1855.

Madeline, s. m., foaled 1849. By Boston, dam Magnolia, imported by Henry Clay. Time on Hamtramck Course, 1853, mile heats, best three in five, 1.49—1.48—1.47. Two miles, 3.42½, same year. Two miles, 3.50—3.49, 1855.

Hebe, b. m., foaled in 1849. By Bethune, dam sister of Alice Carneal, the dam of Lexington. Time, best three in five, mile heats, on Adrian Course, Michigan, 1.53—1.55—1.53—October, 1854.

Dora, s. m., foaled 1850. By Boston, dam Moonlight, by Imp. Emancipation, her dam the dam of Donna Maria.

Fury, s. m., foaled March 4th, 1851. By Altoph, dam by Im. Stamboul, g. dam by Sumpter. Time, best three in five, mile heats, 1.49—1.50—1.51.

Madeline, Hebe, and Dora, are in foal by Bob Letcher.

Billy Boston was got by Boston, but I have not the certificate of his pedigree in full. It was given to the commissioner at the State Fair in 1854, and not returned. I will write to Mr. Blackburn, of Kentucky, who bred him, and procure his pedigree, which I will send to you as soon as I receive it. Boston will stand for mares at my stable the coming season. I consider him the best horse now in Michigan, but it is quite unnecessary for me to give an opinion as to the merits of a horse that you have seen. You being a much better judge than myself.

There is a very good horse at Ann Arbor. He was got by old Black Hawk. There is also a very superior Morgan horse owned by an association of gentlemen of Livingston county. He is good size, fine style, and superior action. He is called "Green Mountain Boy; was got by old Green Mountain Boy; he by Sherman Morgan. These are the only horses of superior merit in this vicinity.

If you wish any farther particulars regarding my stock, or the horses in this vicinity, I shall be very happy to furnish any information within my reach.

Yours respectfully, CHAS. A. JEFFRIES.

The Hereford Race of Cattle.

In the west of England, close to the borders of Wales, and on the rising tracts of land which reach to the base of the Welsh Mountains, there is a race of cattle, belonging to the Middle Horns, which has frequently come in competition with and borne off the highest prizes from the Shorthorns, during the last half century, and which is known as the HEREFORD. The name is derived from the county which forms the centre of the district where these cattle have been known from the earliest times. The Herefords are esteemed as much an original race as the Devons, and are considered to belong to the group of breeds, in which are comprehended the old races of cattle known as the Pembroke, the Glamorgan, the Sussex and the Devon, all of which belong to the west and south of England.

The Hereford cattle, like all the other breeds of Great Britain, have for nearly eighty years past been made the subject of many experiments by skillful breeders; and they undoubtedly have been brought up to their present condition and high character

only by much care and attention to the selection of the best animals adapted to develop the good properties of the race, hence they are frequently designated as the *New Herefords*, just as their great rivals are denominated the Improved Shorthorn.

As early as 1769, Mr. Benjamin Tomkin laid the foundation of the modern improved race of Herefords, and nearly all the present high bred herds there are traced back to the two cows Pigeon and Mottle, which he selected as the basis of his attempts to raise improved cattle. This gentleman's name occupies the same relative position with regard to the Herefords, that Charles Colling's does in the history of the Improved Shorthorns. His two cows, especially the one named Pigeon, being nearly as prominent in the pedigrees of the choicest animals, progenitors of the improved race, as Hubback is amongst the Shorthorns. After Mr. Tomkin, came the Honorable George Germain, Mr. Jno. Price, the Earl of Talbot, Mr. Williams, Mr. Andrew Knight, all English breeders of Herefords.

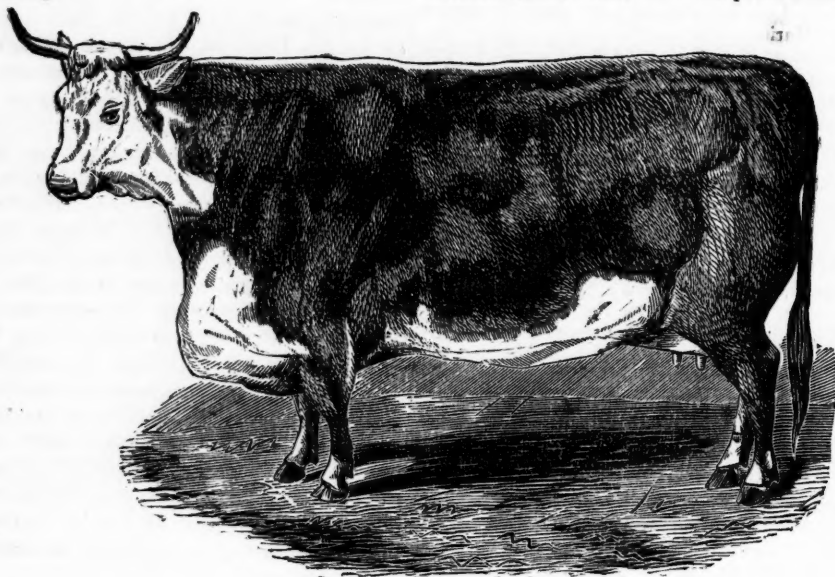
In the Herefords there are two families, which each have their advocates. These are distinguished more by their color, than because there is any great difference in their qualities. The one is known as of the Tully stock, and have a mottled face, and a light yellowish red color. The other is of a darker red, with the white face, back and belly, which is generally known to us as characteristic of the modern Hereford, these are known as the Tomkin and Price tribe, and of these the Rev. Mr. Smythies and Sir Francis Lawley are much noted as breeders at the present time.

Among those who were the first to import Herefords into the United States, Henry Clay of Kentucky, and Wm. C. Rives stand the most prominent, and Mr. Sanford Howard of the Boston Cultivator, relates that Admiral Sir Isaac Coffin of the British Navy, in 1825, made a present of bull and cow to the State Agricultural Society of Massachusetts, and which he afterwards used himself to improve the common stock of the section of New England where he resided. No thoroughbreds were raised, but the descendants of the bull are remarkable to this day for their fattening propensities, their great excellence as work cattle and the decided improvement which the cross made in every thing it touched, over the native stock surrounding it.

These importations, however, were limited to but a few animals, which were more used for indefinite crossing, rather than with a design to preserve the breed in its pure state. Of course the race soon ran out. In 1839, Caleb N. Bement of Albany, imported a bull and heifer from which some few animals of this race were bred. But the first large importation of any consequence for the purpose of keeping up a herd, was made by Messrs. Erasmus Corning and W. H. Sotham in 1840, when twelve

head were brought across the Atlantic in the spring of that year, purchased from the Messrs. Hewer of Gloucestershire, England. Some of the animals were of extraordinary merit, and Mr. C. N. Bement, in noticing them after their arrival, remarked, "I must confess I was greatly disappointed in the size and general form of the cows, for they were apparently as large as the Darhams, and possessing the broad loin, large capacious bodies, deep, broad and projecting brisket, but with a coarse head and neck, which to those familiar with the shorthorns would appear *oxy*."

In the fall of the same year, these gentlemen made another importation of nine head of pure bred Herefords, among which was a cow, named Matchless, which had won the first prize when put in competition with all England at the Oxford Fair of the Royal Agricultural Society. From that time to the present, Mr. Sotham has been the steadfast advocate and most pertinacious breeder of Herefords in the United States, in the face of all kinds of opposition; and certainly it must be admitted that he has had the most savage disputes with the advocates and breeders of shorthorns, as to the peculiar merits of



Portrait of the Hereford Cow which took the first premium at the great annual exhibition of the Agricultural Society of England, for 1857.

the two breeds, nearly always having the merits of argument in his favor, as well as the weight of beef. So confident has this gentleman been, that he has frequently issued challenges of the boldest kind for the purpose of calling out and testing the money profits to be made from selected animals of the two breeds, but these challenges have not led to any results as yet. Last summer this gentleman issued a challenge to some of the Kentucky breeders, in which he offered to take five of his yearlings, and put them in the hands of any competent and honorable feeder, against five yearlings of the shorthorns, to be selected by Brutus J. Clay, or Cassius M. Clay, the food of each to be duly computed and kept a strict account of. Each of the five of the two breeds to be shown at one of the great fairs of the west, when two year old, three year old, four year old, and five year old, at which a committee was to examine the animals, weigh them, sum up the value of their food, and decide which had proved the most valuable as profitable animals to be put in market for butchering purposes. The offer was not

accepted; and it is worthy of remark that no trial under similar conditions has ever been made to test the merits of the two breeds.

In 1850, Mr. Smythies, an English breeder, offered a premium of five hundred dollars, and five animals, and challenged the breeders of all Britain to compete with him, and they might have the choice of any of the numerous breeds of that county to select from. This offer was never accepted. During the last twenty years there have been several like challenges made, but neither the Shorthorn nor Devon men have taken them up, the limitations regarding the cost of food seeming to be the objection.

The showy, fashionable, and it must be admitted also, the real good qualities of the Shorthorns, so striking to the partially educated eye and taste, easily fascinated the public judgment, and led captive both the wealthy capitalist and the painstaking farmer; and whenever the notion of one breed strikes in, there is sure to be a disposition to ignore the good points of all other breeds, no matter how prominent they may be, or even how superior they might prove for certain soils or localities.

Now the advocates of the Herefords claim that they will live on harder fare, work better, feed up as quick, if not in less time, and produce a quality of beef superior to the Shorthorn, or any other breed. That for early maturity, they are ahead of all other races, and that for size they came up in many cases to the largest.

In general the Herefords are not so large a race as the Shorthorns; their height is less, but their bodies are almost as heavy, being very short on the leg, and generally deeper in the chest and flank; in proportion, with as good a breadth of loin and back. In width of shoulder, and fulness immediately behind that point, and the crop, there is none of their superior. Behind, their quarters are considered better than the Shorthorns, except in the most carefully bred animals; the hips being considered longer and heavier in proportion to size, and hence they are great favorites with the butchers—their beef at the London market bringing generally a cent per pound more than Shorthorns. For several years steadily, from 1838 to 1844, the Herefords took the first prize when competing with the Shorthorns at the great Smithfield Cattle Show, in which in some of the classes, all breeds were pitted against each other, taking into consideration only the excellence of the animals, without regard to the peculiar points for which the race are appreciated. Our readers will more readily appreciate the size to which oxen of this breed have attained, when they know the length and girth of a few of them. In 1853, the short-horn ox which took the first prize at the Smithfield Cattle Show of that year, girthed eight feet four inches, and was five feet four inches in length. Another Shorthorn to which was awarded the second prize girthed eight feet three inches and was five feet ten inches in length. At the same show a prize heifer not quite four year old, girthed nine feet two inches, and was six feet in length. In the Herefords, Prince Albert, the same year, showed a Hereford steer over three years old that girthed nine feet four inches, and was only five and a half feet in length; an ox of the same race girthed nine feet and an inch, and was the same length as the first. Two fat cows at the same show, girthed seven feet eight inches, and were each five feet four in length. At the same show of last year, 1856, a Hereford cow was shown of a live weight of a 2,408 pounds. These sizes and weights will give a pretty fair idea of the ability of this race to mature quickly and to grow to a great weight. It will also show that they must possess the desideratum which feeders strive to attain—compactness of carcase, or great weight within a small compass.

In this breed, however, there is a drawback, which may prove of consequence or not, as it may be valued by those who raise stock. They are said to be almost invariably inferior milkers, though not

always so. For Mr. Smythies won a premium of seventy-five dollars offered for the best cow for dairy purposes by the Smithfield Club in 1837; the second prize was won by a shorthorn. Where the attention of breeders have been given to milk qualities, there appears to be no difficulty in developing them in this breed, but as they have been accounted of little value, they have given way to the properties which produce flesh.

On many of our Michigan lands, especially in the northern counties, where there are yet but few shorthorn farms, we are inclined to think that the Herefords would prove one of the most profitable breeds which could be tried, and that they would withstand the effects of seasons when food might be scarce, with less loss and more hardiness than any which we know, to be within reach of those who are looking for stock. Probably the Scotch Galloway might be even better, but there are very few, if any, of that race to be had in the country. There are few Herefords if any now in Michigan, two or three head were purchased by a gentleman near Chelsea about year ago, but we have never learned that they had been brought into the State.

With this article we give a portrait of the cow which took the first prize at the late exhibition of the Royal Agricultural Society in England. Next month we shall give a similar engraving of a bull of this breed, in the same elegant style as this, and which is from the burin of H. E. Downer, who executes all our engravings.

Since the above was written, we have received a letter from D. B. KINNEY of Oberlin, Lorain county, Ohio, who gives his experience with Herefords as follows:

Mr. JOHNSTONE.—Having seen in the December number of the Farmer that you design to say something relative to Hereford cattle, I send you a little of my experience with them for the past five years, which you can publish or not as you see fit. In the spring of 1852, I commenced to improve by getting a full blood bull from the herd of W. H. Sotham, of New York, and raised the first year eleven half blood calves. Finding myself over stocked, I sold five steers when a year old for eleven dollars per head. They were kept in this neighborhood until they were two year old, and then sold for \$25 each, which was considered a great price in that year.—The next year I raised nine, of which I sold four steers last spring being then three years old at \$70 per pair—they girthed six feet four inches with ordinary keeping.

I have milked twelve heifers half blood the last summer, five of them were four years old, and seven were three year old. During the spring they raised thirteen calves, and gave us about forty pounds of butter per week besides. From first of June to first of September I likewise made 1,350 pounds of

cheese, and considerable butter. These cows are very gentle and quiet, and are kept in condition very easily; they have made a great deal of butter since September, but I have kept no account of it. We set the milk of one of the three year olds the first week in June last, and she gave us over one pound of butter per day, five others did as well if not better. Last winter I kept 20 head until March on wheat straw and corn stalks, with only one and a half bushels per day of soft corn to the lot, and after that I fed them each two quarts of corn and meal. They came through the season in the very best condition.

"The size of these half bloods is about half way between the Devon and Durham, with great weight of body for height. I have now a good bull of four years old from the herd of W. H. Sotham, which I wish to sell, as I want to get another to use with my present stock, and this one would be apt to breed too close.

D. B. MINNEY."

The Sorghum Saccharatum.

A specimen of this plant has been kindly forwarded to us for examination, by Mr. S. O. Knapp of Jackson.

This plant, like all its congeners, the Grasses, belongs to the class of *Endogens* (*endon*, within; *genesis*, to produce,) or monocotyledonous plants, the characteristics of which are: no separable bark; no concentric circles; vascular bundles progressive and and definite, not increasing at their periphery, the solidity diminishing from the circumference to the centre; no distinct pith, its place being occupied by the cells of the cellular tissue; no medullary sheath, nor medullary rays; the cellular tissue interposed between the vascular bundles.

A transverse section of the stem of the Sorghum, taken between the joints, is shown at Fig. 1. It is found to exhibit a number of fibro-vascular bundles

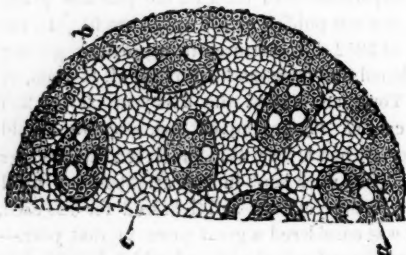


Fig. 1. Half a transverse section of the stem of the Sorghum.

(a), disposed without regularity in the midst of the mass of cellular tissue, by which they are everywhere surrounded, and which forms the bodies of the entire fabric.

These bundles are so extremely numerous that, the section which served for a figure, and which measures one-fourth of an inch transversely, con-

tains upwards of 200 of them. In this respect, the representation given is not faithful, but rather partakes of the character of a diagram—distinctness of structure being the primary object.

Each fibro-vascular bundle contains two, three or more large, frequently annular vessels, which are distinguished by the size of their openings, and in the longitudinal section (fig. 2, c, c,) by the well formed rings, separated by an interval of space.

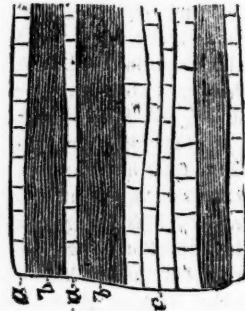


Fig. 2. Section showing longitudinal arrangement of vessels.

These ducts, or vessels, are surrounded by woody fibre (figs. 1, a, 2, b, b,) and spiral, or scalariform *scala*, a ladder) vessels. The transverse diameter of these vascular bundles and woody fibre, is so extremely minute, that the portion which they represent is distinguished in transverse section by the closeness of their texture.

A greatly enlarged view is given (fig. 3,) of a fibro-

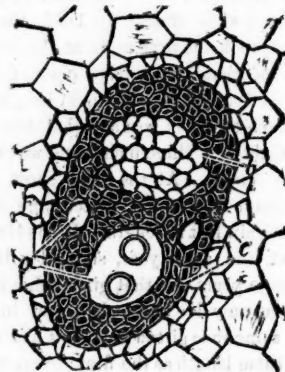


Fig. 3. Enlarged view of fibro-vascular vessels.

bro-vascular bundle; a, two ducts, the larger one containing two rings of an annular vessel; b, a vascular bundle; c, the woody fibre, and d, the ordinary sized cells of the cellular tissue, which surround the smallest cells in proximity to the fibro-vascular bundle.

The bundles are least numerous in the centre of the stem, and become gradually more approximated towards the circumference. The entire stem is invested, or surrounded by cellular tissue, (fig. 1, b,) which in these plants occupies the place assigned to bark in the Exogenous (*exo*, outward) class.

Once formed, the fibro-vascular bundles receive no further additions and are consequently incapable of extension; the enlargement of the stem depends upon the development of new woody bundles.

Examined in a recent (soft) state, the saccharine matter of the Sorghum, is seen to distend the cells of the cellular tissue (fig. 1, c), to an extent equal to one-third of the whole; it presents a dark and glistening appearance, contrasting distinctly with the transparency of the adjacent cells which contain some other fluid, and as the cells filled with sugar occupy the centre of the section, they appear at first sight to simulate pith. So long as the Sorghum matter remains, the cells containing it, appear to be nearly one-third larger than the neighboring cells; but as soon as it be dissolved out by maceration in water, no perceptible difference in size is apparent. It is probable that in a still more recent cane that the sugar will be found in *all the cells*.

The cells which surround the fibro-vascular bundles, are much more minute in size than the generality of the cells of the cellular tissue.

It is stated by those persons who have experience in the matter, that syrup made from the *entire cane*, is more or less bitter, and this principle has been supposed to reside chiefly, or wholly in this last joint—that from which the suckers are derived. It seemed probable from this statement, that the bitter principle stood in close relation to the process of germination; but a microscopical examination of the structure of that particular joint, compared with a joint obtained from the upper part of the cane would appear to negative this view.

By reference to figures 4 and 5, a structural difference is perceptible around the periphery of the cir-

But as every joint gives origin to a leaf, it is yet probable that the bitter principle may be an element of new growth.

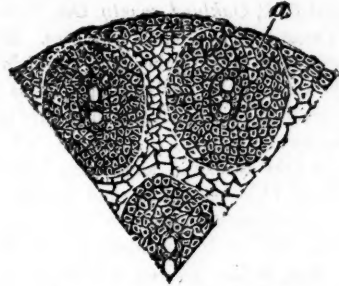


Fig. 5. Section of joint of Sorghum.

The syrup of the Sorghum, appears to be difficult to crystallize; may not the presence of the bitter have something to do with this refractory exhibition?

It might be supposed that the bitter would be less developed at some periods of the growth of the plant, than at others; or that the root would uniformly display a greater amount of it than any other portion of the plant, but this does not appear to be the case, as a young joint, nearly at the top of the cane (fig. 3) would seem to be at least as bitter as the joint at the root (fig. 4).

Under any circumstances it appears to be quite easy to procure an unalloyed sweet syrup from this plant, by simply cutting off and discarding all the joints, and using the intermediate stems alone. If this be done, and the attempt at crystallization repeated, there appears to be no reason why it should not succeed.

HENRY GOADBY.

Jottings by Our Agent.

September 24—At Berrien County Fair, met my old neighbor, S. Brownell, now living on Pokagon prairie. He told me that five farmers in his neighborhood, including himself, had thrashed their wheat, and found that the average yield was sixteen bushels to the acre. This is about an average for that part of the county this year.

Ypsilanti Plains, October 3d.—Charles Holmes says no rot on early planted potatoes, except Meshanocks a very little, but late planted are all going; they did not come to maturity before decay of top commenced. T. C. Wheeler, in the same neighborhood, says it is not the potato disease proper, but a species of rust attacks the top, and that stops the growth of the tuber, which, being unripe, soon begins to decay. N. Gregory, of Canton thinks he will lose about half his potato crop, all his Meshanocks and some Pinkeyes, but the Cowhorns are perfectly sound.

Pittsfield, October 5th.—I am pleasantly surprised to find that Mr. John Shipman is manufacturing Kellam & Vallead's patent gang wheel plows, a most excellent farm machine, and one which effectually

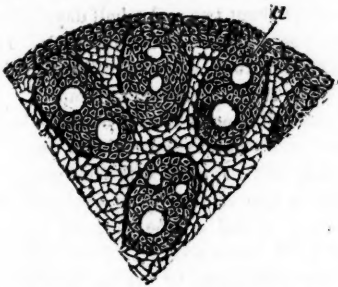


Fig. 4. Section of joint of Sorghum.

cumference, as compared with the same part of figure 1. We here see a closer, and denser arrangement of the bundles of woody fibre (a, a) the vessels being more than ordinarily minute (especially in fig. 5) and very few in number. A longitudinal section of the root (fig. 2) more clearly shews this structure.

If the tongue be applied to a transverse section, the sweet portion will be found within, and the bitter, around the margin; the inference is, therefore, that this principle is restricted to the external bundles of woody fibre by which the joints are consolidated.

October 6th, Measured a stalk of Yellow Dent corn raised by John Gilbert, Ypsilanti. It was eight feet to but of first ear, eight feet nine inches to second, and thirteen feet to top of tassel.

Royal Oak, Oakland county, Oct., 17th.—Orson Starr's most successful mode with bees. His hive is a common box, twelve inches high, the ends thirteen, and the sides sixteen inches long. Cross bars run from corner to corner down in the centre to prevent the honey from melting down in hot weather.

Straight slats are let in lengthwise, with ganes on top about 1½ inches square, and the like distance apart, or perhaps one inch wide and the same apart. The bees will adapt the thickness of their comb to these slats, so bee keepers can vary them to suit their notion. Tack a piece of common, shilling factory cotton on top of the slats, leaving the outside spaces open next the sides of the hive, and a like space next the back end, but tack front end to the hive. Lay a board over the top each year until the hive has swarmed; then take off the board and set on a box same size of hive and six inches deep. Mr. Starr says he has discovered, from long experience, that bees do the best and are the most profitable in straight boxes to which he can have ready access. He is the most successful bee keeper I have ever talked with in Michigan. His bees were all lively, and everything about them seemed to be in order. He told me that he had sold over seventy dollars worth of honey this fall, and had just taken off boxes enough to make up the hundred dollars, leaving his bees all alive and ready for profit next season. His plan is simple and perfectly successful. Give it me for all patents.

On the same farm I saw a potato digger which obtained the first premium at the County Fair; a fact which proves that it was appreciated by the judges. I saw it worked on rows not dug; again on the same ground where it had been run, and also on ground that had been dug with the hoe. In the two latter it brought up potatoes to sight, but full as many where the hoe had dug as where the machine had dug. It is not patented, consequently I am not allowed to describe it, but that it will perform with complete success on ground not rooty, soddy, or stony, there can be no doubt; and it will bring potatoes out as fast as ten or twelve hands can pull off the tops and pick them up.

October 18.—On the farm of Diodate Hubbard, near Birmingham, I measured two apple trees, the first four feet eleven inches in circumference, the other five feet. Mr. Hubbard set the orchard in 1825; the trees were bought of Mr. Bates, a nurseryman of Ashtabula, Ohio. He says he gathered seventy-five bushels in one season from the largest—a winter Greening.

Mr. Hubbard has one of the choice farms met with occasionally in traveling over Michigan. There is a

ridge running through it near the centre, northeast, and southwest; on this the buildings are situated, and from the barn the whole farm can be seen. The soil is dark gravelly loam. There is a good sugar bush, the ridge continuing through a timbered belt. I think if I were located on this farm I would be contented for life; but Mr. Hubbard wants to sell, and offers any length of credit to suit purchaser—garden, out houses, wine house, and everything desirable.

October 20th.—Visited the Novelty Iron Works of Gustavus Smith, Birmingham. He has a splendid lot of farm implements on hand. Fine horse powers, ranging in price from \$55, to \$75; combined cider mills and corn shellers at \$32, press included; good wood sawing machines in order for running for \$40. I was forcibly impressed with the neatness and strength with which these machines are got up, and also the many more useful things that are built here.

October 23.—Town of Waterford. Israel Smith says swamp muck is worth more to bring up sandy land than the same amount of barnyard manure. Haul it on the ground in the fall and winter, lay it in heaps, and spread it in the spring.

In the same town C. Horton, a very worthy farmer, is cultivating the Catawba grape most successfully. Had a rich crop this season.

October 27th.—At John Derrick's, Clarkston. His way and success with one acre of marsh and willow. He cut, piled and burned the willows, fenced, and kept the sprouts down with sheep. In July 1856, plowed with a three yoke team and sharp breaking plow, six to eight inches deep; harrowed and sowed to turnips. Drouth so severe that not more than half the seed germinated, consequently very scattering. Spent about two and a half days killing weeds with the hoe, and harvested 266 bushels. It was too wet this season to do anything with, and it is so situated that he is not permitted to drain it. In 1856, Mr. D. had seven acres of corn on sandy loam which had been under cultivation eighteen years. It was clover sod, partly run out with June grass. He first manured at the rate of ten to twelve loads to the acre, evenly spread on the sod, and one barrel of plaster to the seven acres; broke up with a jointed plow, nine inches deep, by two heavy teams, one pair of horses and one yoke of heavy cattle, laying it flat over; then went over with cultivator, finishing with light harrow; marked into rows four feet each way; wet seed corn (yellow eight rowed) and rolled in plaster; left at dressing from three to four stalks in a hill; cut up in September, and took from the ground one hundred bushels of ears per acre. The corn was cut carrying four rows each way, and the ground sowed to wheat after the cultivator. He harvested, the present season, twenty bushels per acre of Mediterranean and White Flint Wheat. The

red midge made its appearance a very little, but it could not be discovered that it liked one kind of wheat more than the other. The flint wheat was the most plump.

Mr. Derrick also raised one and a quarter acres of potatoes in 1856, with the following labor and results. The land was clover sod on a light sandy soil. He put on twelve loads of manure, turned over as above, with a jointer plow, nine inches deep; harrowed and marked both ways three and a half feet apart; planted large seeds, cutting the largest and putting two pieces in a hill, which took about nine and a half bushels per acre; cultivated between the rows both ways twice, finishing with plow turning light furrow one way; spent one and a half days with hoe in tending; dug two hundred bushels and realized seventy-five dollars from the crop over and above cost of taking to market. They sold at an average of five shillings and six pence per bushel.

White Lake, October 27.—Robert Garner sheared from sixty-three sheep an average fleece of six pounds two ounces and a fraction, per head. There was but one wether in the flock. Six two-year-old bucks sheared as follows. No. 1 gave twelve and a half pounds, No. 2, eleven and a half, Nos. 3 and 4, eleven pounds each, No. 5, ten and a half, and No. 6, ten pounds. There were eight one-year-old bucks, the balance of the flock were Spanish ewes from the Bingham flock, Vermont.

Harrison, Macomb county, Nov. 6.—H. C. Edgerly has some fine horses; one admirable large, well-proportioned colt, three years past, and one grey, seven past, of fine build, heavy body, and short legs.

Memphis, Nov. 9.—This town, on the county line, north of Macomb and south of St. Clair, contains from eight to twelve hundred inhabitants; it has six stores, two hotels, one kept by J. P. Quick, formerly at the junction of Piank Roads near New Baltimore. There are two houses of public worship, two district schools, two flouring mills, two lumber mills, two foundries, two tanneries, besides blacksmith, wagon and carriage shops, painters, joiners &c.; and the best of all, both village and country are populated by an honest, enterprising, industrious set of inhabitants, among whom our friend L. S. Gilbert is conspicuous for social, home philanthropy and private enterprise.

Memphis is in the midst of a good farming country, about equi-distant from Baltimore, St. Clair, and Port Huron. Being six miles from the line of Port Huron and Milwaukee R. R., it is a desirable location for new settlers, who can purchase land at second hand for from six to ten dollars per acre. Just north of this village, about two miles, is that delightful ridge of land spoken of in Jottings of August 1856, on which I am told that there is vacant land yet to be had at the above rates. I can say, from having passed through this region now the

second time, that this is a desirable spot for location for either farmers or mechanics. There are inducements of market, timber, soil, and other facilities not often met with even in this State of local advantages.

November 18.—Stopped with A. J. Palmer, where I saw a cane crusher in operation, which, to say the least, evinced much of the old Yankee propensity to save time and do one's own work. It was of wood, two cranks by which Mr. P. and his hired man spent the evening in crushing sorghum, which was fed to the machine by a young lad, one stalk at a time.

Town of Port Huron.—Mr. J. Miller has a garden of about 1½ acres, from which he raised, the present year, forty bushels of beets, two hundred bushels of turnips, ruta бага and white globe, some of the latter weighed nineteen pounds, and the average weight of the ruta bagas was eight pounds; sixty-five bushels of carrots, about twenty of parsnips, ten of onions, forty-five bushels of apples, twenty of cherries, plenty of currants, from which he made fifteen gallons of wine; there were other vegetables, squashes &c., in proportion. The soil was yellow sand. I had the above from Mr. Miller, except that I saw the ground and piles of the vegetable, but did not learn from him the manner of cultivation or how much he realized.

St. Clair, Nov. 20.—Saw at the stable of S. Brown's Hotel, the noble horse, Crown Point Black Hawk, half brother to Washtenaw Chief. This horse competed with Black Hawk Beauty and Washtenaw Chief at our late State Fair in the class of horses for all work, and obtained the second prize. He is an admirable horse, and of rather larger size than the Morgan stock generally.

St. Clair.—Crops and stock of S. B. Brown. Mr. Brown raised, the present year, 320 bushels of carrots from two fifths of an acre; soil clayey loam, underdrained and worked ten inches deep; no fertilizers were used except common barnyard manure, eight loads on the piece. He has raised carrots on black loam, many roots over two feet long, and numbers measuring from twelve to sixteen inches in circumference.

Friend Brown has the Mammoth Sugar, Muscadine, Catawba, Isabella, and Sweetwater grapes. They have stood the two past winters well; all fruited the present season and are in flourishing condition. They are planted on an underdrain of bones, horns, &c., from the tannery, instead of tiles. He has also experimented with charcoal and bones, to which, in every instance, he finds a root has put out its fibres and penetrated. He thinks the greatest cause of failure in raising grapes in this climate is in not keeping the wild branches properly trimmed off and the vines cut back to make them harder. Mr. B. thinks, however that the Sweetwater is too tender a plant for this climate.

Mr. Brown has raised, this year, fifty acres of oats, pine top variety, averaging forty bushels per acre; four acres of potatoes with very little rot, on clayey ground, not underdrained, and a half acre with no rot of consequence on other ground.

Of Mr. Brown's stock, I would remark that his bull, which I mentioned in my jottings of last year, but said nothing for, has astonished me by his change for the better; he has filled up where he was deficient, thickened up, and is a noble fellow. I saw his stock on many farms; it is an ornament to the county. Among the increase of his stock since last year, Mr. B. numbers three heifers, one pair of twins, now fourteen months old, and beauties. He has sold three bull calves, full blood; one, thirteen months old, to Mr. Cole, of Worths, for \$100; one, two and a half months old, a heifer's calf, to Mr. Allison, of Lynn, for \$75; one, four months old, old cow's calf, to Wm. Shinsie of Columbus, for \$50; and one half blood heifer calf to Mr. Allison, for \$25; The receipts for sale of calves alone foots up \$250, and he has on hand now of heifer calves, one full blood and seven half bloods, also one bull.

I cannot close this part of my jottings without relating an incident that will be a little personal, yet I flatter myself that I shall be excused, as it shows the spirit in which St. Clair farmers compete with each other. At their late county fair Mr. Baird says to Mr. Brown:

"I am determined to beat you in stock, if it costs me two thousand dollars."

"That is right—just what I want; replies Brown.

I remark to our farmer friends, that this is the kind of spirit that benefits the country. "But," says a moderate farmer, "these men are able." To be sure, they are able, and it is because they are, that the best stock will be brought within your reach; therefore, let us give due credit to that enterprise which, by stocking and enriching the country in this way, is increasing its productive wealth and means of usefulness.

Salem, Washtenaw County, Dec. 2.—Mr. Henry Hickox has a fine young stallion, three years past, called Young Arabian. He was sired by a Duroc and Messenger colt, out of a mare sired by Bussorah, the old imported Arabian, originally kept in New York city; grand dam a full blood English mare, owned by Chester Richardson, Monroe county, N. Y. I do not pretend to be a judge of horses, or a horse fancier, but will venture my opinion that this colt will be a valuable one as a roadster for endurance, and also sufficiently speedy. He took the first prize at the late county fair at Ann Arbor. The only reason why I should prefer him to the Morgan Black Hawk is, that he has more weight of body and muscle, consequently more power.

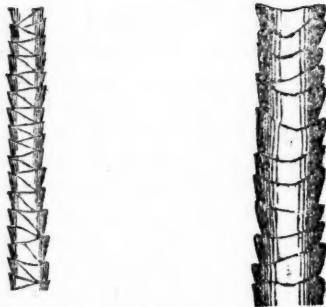
At Salem, same county, I enjoyed the hospitality

of Mr. Stanbro, whose name has often been mentioned in the *Farmer*, in connection with improved implements of farm husbandry. The great advantage of all his implements is their simplicity and perfect adaptation to the purposes for which they are intended. He has very cheap, simple, yet efficient straw cutting machines, intended for the use of any one who keeps but one horse and a cow or two, to eat fodder by hand. It works on the most simple, but strictly philosophic principles; the knife is easily kept in order, because easy to be got at. Let those who want a cheap, useful little article, enquire of Mr. Stanbro; they will not be disappointed.—Price \$5.00. He has also an excellent plan for hanging gates so that they can be raised above the snow in winter, and lowered close to the ground in summer. I have seen these hangings in operation; there is no cheat in the matter; they answer the purpose completely, and are preferable for strength, durability and cheapness. Price \$1.50, with instructions how to put them on.

On looking over the December number, I find that in my notice of the Monroe County Fair, Mr. Sherman's four year old Black Hawk Stallion is entirely left out. He is a fine horse, of the same stock and pedigree as the others mentioned, and dark bay in color.

J. A. BALDWIN.

Wool Examinations.



A magnified fibre of Mr. Gillet's Saxony wool compared with a fibre of Leicester wool magnified with the same power.

During the past month we have been favored with parcels of fine wool, from the flocks of Mr. Peckham of Parma, and N. S. Schuyler of Birmingham. Mr. Peckham's samples were fourteen in number, as enumerated below, and were, we believe, altogether confined to the Spanish Merino race, in which class he has long borne off a large number of premiums at all our State Fairs. He did not give any mention of the breed of sheep from which the samples came, but from our own knowledge of his flock we feel certain that all his samples may be put down as of pure Spanish merino wool.

Mr. N. S. Schuyler, of Birmingham, Oakland county, sent us altogether 21 samples, which he enumerated as follows, and to which we have appended

the remarks of Dr. Goadby as they passed his examination:

1. A Silesian buck. A fine and excellent wool, imbrications well marked.
2. Silesian buck. A fine wool, but not very good.
3. A French buck. A fine and most beautiful wool, can not be surpassed.
4. A French buck. Not quite so fine, but a beautiful wool.
5. A Silesian and French buck. Fine, but decidedly inferior.
6. A Silesian and French ewe. Not quite so fine, but an excellent wool.
8. A Silesian and French ewe lamb. Moderately fine, but a beautiful wool.
9. A Silesian and Spanish ewe. Not so fine, but quality very good.
10. A ewe three-fourths to seven-eighths French, (and native we suppose.—Ed.) Not so good as those examined.
22. The same. Moderately fine, but an excellent wool.
12. The same. Fair, and a most excellent wool.
13. A French ewe imported. A fine and good wool.
14. A French ewe imported. An inferior wool, nearly smooth.
15. A Spanish buck. Not examined.
16. A Spanish buck. Not examined.
17. A Spanish buck from Stickneys flock of Vermont, and sired by the celebrated Robinson buck. A fine and beautiful wool, equal to No. 8.
18. A Spanish ewe. Wool as fine and good as No. 17.
19. A Spanish ewe. Not examined.
26. A Spanish ewe. Not examined.
21. A three-quarter French and quarter Spanish buck. Not examined.

The labor incident to the examination of this wool was very great, each wool having to be cleaned with sulphuric ether, and prepared for the microscope, before they could be compared with each other. The whole examination occupied the entire part of four days. Some of the samples were not examined for want of time, and also because they were considered mere repetitions.

It will be seen that Dr. Goadby's decisions do not agree with those of the judges at the fair, but it must be taken into consideration that the judges do not decide altogether on the merits of the wool. They also weigh the animal on its several points of conformation, constitution, and ability to breed superior stock. With these points the professor had nothing to do. But he calls attention to one fact, which is the difference of the wool from breeding animals and those which do not breed; and he also raises the question as to the wool of wether sheep, and whether it would not be found, generally, of a superior and more uniform quality to that of ewes, or even of the bucks themselves. We suggest that some of our friends send us a few samples taken from choice full blood and grade wethers of the several breeds, that they too may be examined.

As a general conclusion, it would seem that the Silesian wools are not an improvement on either Spanish, French or Saxony, and that when crossed with either, the wool is deteriorated.

Report of Dr. Goadby of the Agricultural College, on certain wools submitted to him for examination.

Several samples of wool have been handed to me for microscopical examination and report, by the Editor of the *Michigan Farmer*.

They have been received from Mr. Samuel Toms of Ohio, N. S. Schuyler, of Birmingham, and Mr. B. Peckham of Parma.

The specimen from Mr. Toms, was taken from "a pure Leicestershire ram"; it is a strong, coarse, magnificent wool—admirably adapted for flannels, blankets, and strong warm woollen clothing, but altogether inadequate for the manufacture of fine fabrics. It is remarkable for its great length, and colossal size; being three, and even four times the diameter of French, Silesian, Spanish, and other wools.

Three other specimens of Leicestershire wool, so nearly resemble the specimen alluded to, that no further description is necessary.

Mr. Peckham's Premium list of 14 Wools.—My examination of these wools conflicts sadly with the opinions of the Judges, at the late State Fair, as will appear from the appended copy of the remarks made after examining each specimen, to which the premium list is added:—

No. 1. A fine good wool.....	1st premium
2. A much better wool than No. 1.....	2d
3. Equal to No. 1, inferior to No. 2.....	1st
4. Finest and best wool yet examined.....	2d
5. The worst specimen yet seen.....	1st
6. A fine good wool.....	2d
7. A good wool—nothing extraordinary.....	1st
8. Like the last.....	2d
8. An excellent wool.....	1st
10. Excellent quality.....	1st
11. Finer than common, one of the best in the list.....	2d
12. As fine as the last, quality remarkable.....	1st
13. For fineness and quality surpasses all the rest.....	2d
14. Equal to the last but finer.....	1st

These specimens of wool were each examined in the order in which they are marked, and the observations recorded before looking at another specimen. The remark at No. 4, "finest specimen yet examined," is meant to apply to the first four wools. The "premium" list was not seen till the end of the examination.

From the foregoing statement it is difficult to understand on what principle the awards are made: No. 1, a fair ordinary wool, receives the 1st premium; while No. 2, a "much better wool" gets only the second! No. 5, "the worst specimen yet examined," is honored with the first premium; while No. 4, "the finest, and best yet seen" is put off with the second premium.

Out of four specimens, quite extraordinary for their quality, (Nos. 4, 11, 13, and 14) only one obtains the first, while the remaining three must be content with the second premium. To make the error complete, worthless, or at best indifferent specimens, carry off the first prize!

In this list, no reference is made to the *breeds*—a most important fact, nor, with few exceptions, to the sex.

Mr. Schuyler, has been more thoughtful in these

respects, and puts us in possession of information of great practical value. Thus, it will appear that the wool of his Silesian sheep, like those formerly reported on, are very indifferent. The sheep of pure blood, French and Spanish, present most beautiful wools; fine, and with imbrications closely set and very strongly marked.

In the instances in which these breeds have been crossed with Silesian, the quality of the wool, is more or less deteriorated. Again, the wool of the male is found to be, with few exceptions, greatly superior to the wool of the female sheep; but the exceptions come (most likely, though the fact is not stated) under the physiological law, which renders it certain that the wool from a breeding, should be much worse than from a maiden ewe—the assumption therefore is, that the fine specimens of ewe wool, were obtained from maiden females.

For example: amongst the wool from ewes in Mr. Schuyler's list there are four (Nos. 7, 9, 10 and 14) of very inferior quality—the worst of the whole parcel; the presumption is these were breeding ewes; for, on the other hand, Nos. 11, 12, 13 and 18, are excellent wools, and these were most likely obtained from maiden ewes.

The wool from the lambs, is always excellent.

It may be further remarked that the ewes with wool of best quality were pure blood, French and Spanish, with only one exception, and she had "from three-fourths, to seven eighths" French blood in her. Of the four with inferior wool, two were Silesian and French; one three-fourths to seven-eighths French; and one pure French; the two latter appearing to confirm the view above enunciated. The Silesian variety appears to be a great favorite at the present time, and the wools of this breed have been subject to more than ordinary scrutiny.

As a rule, they are entitled to rank as fine, but not the finest wools—some of Mr. Gillet's Saxony exceeding some of them in this respect, and being fully equal to the finest Silesian specimen yet examined.

Mr. Schuyler sent two specimens of pure Silesian wool, and Mr. Gillett (on a former occasion) four specimens. Mr. Schuyler's specimens were both from bucks; of Mr. Gillett's the sex is not known.

One of Mr. Schuyler's (No. 2) is almost smooth, therefore worthless; No. 1 is a coarse, but good wool—much coarser than the Saxony.

Three, out of four of Mr. Gillett's, are very fine—quite as fine as the best Saxony, with imbrications well marked for a Silesian sheep—in other words, they do not appear to be nearly as prominent in this, as in other breeds. I do not think that the quality of Mr. Schuyler's French (Merino?) and Spanish, and Mr. Gillett's Saxony can be exceeded.

In the former article, the figure given was copied from a coarse blanket wool; this article is illustra-

ted from a drawing carefully made from one of Mr. Gillet's fine Saxony wools. It will be readily understood that a wool with a great number of short, decided scales, must have a greater tendency to mat, or felt, than a wool in which the scales are scarcely developed—so thin, that even high power can scarcely render them visible.

Finally, from the facts obtained in the examination of the wools referred to in the present and the former papers on this subject, it would appear that some breeds of sheep (Leicestershire) furnish a large, strong, coarse, but most excellent wool; others, like the Saxony, French, and Spanish, produce a remarkably fine, and very superior quality of wool. The Silesian wool is fine, (sometimes) but comparatively worthless, and its crosses, only tend to spoil an otherwise good wool.

And that, lastly, the male wool is to be preferred, for economic purposes. HENRY GOADBY.

The Receipts of Mr. John Phillips' Farm.

MR. EDITOR.—After some neglect in sending you the amount sold off my farm in the year 1856, I would now say there are 90 acres of tolerable improvements on it, leaving 33 of woodland and pasture. The sales of that year were \$1254; of this amount there were 1300 lbs. of butter sold for 20 cents per lb., being the produce of seven cows, the remainder was from grain and stock. I paid for farm labor, with some fencing and underdraining, \$400 on this place. I have laid out considerable money the past thirty years on this farm. From practical experience, I find it yet capable of great improvements; the fertile valleys on this farm, after all the improvement I have made, are only yet in a state to make thorough cultivation useful, by ditching, and thorough draining. The manure made on the farm, collected with care, and of which I drew from my barnyard 182 waggon loads last spring, was applied to my corn crop with good result. Before I stop, I cannot avoid remarking that the beauty of my Southdown sheep is very pleasing; they were purchased of Mr. Wm. Whitfield, near Pontiac, at the State Fair in Detroit, 1856. Mr. Johnstone, if you think these few lines worthy of a place in your paper, they are at your disposal.

Respectfully yours, JOHN PHILLIPS.
Ypsilanti, December 15th, 1857.

Will a Pig Pay?

[The following amusing and instructive chapter on breeding and feeding hogs, is taken from an English paper, and will well repay perusal. We hope all will read it. We have reduced the currency to dollars and cents.—*Ed.*]

"Every one says, and what every one says must be true, that pigs will not pay. Every farmer says so, and your thrifty tradesmen's wives, who occasionally fatten a pig and keep an account of the

cost declare, 'their pork stands them in a shilling a pound.' Then why do we keep pigs at all? Obviously, as it appears to me, from motives of mere benevolence. What other possible motive can induce us to keep an ugly, dirty, unsavory (except when on the table), unprofitable animal, but with the view of charitably feeding our fellow-creatures? With this view our British farmers (I glory in being one of them) breed our pigs, rear our pigs, fatten our pigs, take them to market, and sell them at a dead loss. But as charity must have its limits—as no man can prudently exceed a certain sum in almsgiving (that is, preparing his pigs for market)—with the view of making this sum go as far as possible, and so conferring as great a benefit as possible on the public, I submit to my brother-farmers this "Practical Paper on Pigs." I shall confine myself to color and size. There never was a good horse, they say, of a bad color; and so it may be with pigs. Were it my practice to confine my pigs altogether to their sties, and to shelter them in the summer from the sun, I might not object to a white pig. But I have found that, when turned out to grass in Devonshire, the sun has a very injurious effect upon the skins of white pigs; therefore, I have latterly confined myself to black. Most farmers are inclined to select a large breed: 'Ay,' said one; 'there is some growth in that pig.' 'Yes,' says another; 'that's what I call a good farmer's pig, none of your fancy sort.' And yet I very much doubt if they are right. The native pigs both of England and Ireland were of a large breed, and without any great aptitude to fatten. Our improved breeds have been produced by judicious crossing with the Chinese and Neapolitan, which have even too great a tendency to turn food into fat; the more the breed we select takes after these latter, the more profitable, in my opinion, we shall find them; and that, in nine cases out of ten, the same quantity of food, judiciously given, will add more to the weight of two pigs of a small breed than to one of the larger (unimproved) breed; while the quality of the increased weight will be greatly preferable in the small breed, and fetch a higher price in the market [for pork, fresh or pickled. *Edit.*]

"Breeding.—Sows should be at least two years old before they are mated. They are not full grown until five or six. Highbred [especially if allowed to get too fat for want of exercise—*Edit.*] will often not breed at all, or at any rate have only half the usual number of pigs. Where, therefore, only one or two breeding sows are kept to eat up the waste of the farm [and produce suckers and small porkers], it may be well to be content with a 'farmer's sow,' but on all occasions obtain the services of a first-rate boar, especially for the first litter, inasmuch as it is said that whatever number of litters a sow may have in the course of her life, they all, to some extent, take after her first mate. 'Oh that hallowed form is ne'er forgot,' &c. But those who breed on a large scale should spare no trouble or expense in obtaining the very best animals, both male and female, that can be procured.

"Farrowing.—By all means arrange it, if possible, that your sows farrow in March—not earlier, on account of the very cold weather in December, January, and February—not later, lest you lose the chance of a second litter before the cold weather sets in. To be sure, the Royal Agricultural and the Bath and West of England Societies offer prizes for a pen of sows not exceeding six months old in June or July, farrowed consequently in December

or January; and to win these prizes the pigs must be comfortably bedded during the inclement weather in woollen rags or cotton waste, and clothed in Jersey Jackets, which may be obtained from those union workhouses where they teach the elegant and useful accomplishment of crotchet work, and do not teach sewing, baking, cooking, washing, digging or hoeing. But I strongly recommend the practical farmer not to breed too early in the spring or too late in the autumn. The latter is by far the most serious error. You may protect your very early pigs for a month or two, and then they will have a summer's run before them, but a litter late in autumn is seldom worth rearing. Your sow about to farrow should be separated from the herd some time before parturition. You otherwise run the risk of her being injured and bringing forth dead pigs.—The sty should be 12 feet by 10, with a strong pole parallel with the walls, 6 inches from the ground, and as much from the walls, to leave room for the little pigs to escape being lain upon when the mother lies down to suckle them. The straw should be cut short. When the sow is of a valuable breed, and careless of her young, I have sometimes placed the young, wrapped in a blanket, in a cask half-filled with straw, presenting them frequently to the mother to be suckled for two or three days, until they had acquired strength enough to avoid being lain upon. While suckling her young, the sow should be exceedingly well fed. She should be turned out of her sty for a little exercise for a short time daily, even within a few hours after parturition. When the young begin to take food from the trough (which they will do at two weeks old), they should, where there is a dairy, be supplied with milk; oil-cake may be advantageously boiled in the food, both for mother and young. At about two months old the young should be weaned. In my neighborhood, they invariably separate the mother and young before sunrise on a Sunday morning, with the view of the sow having young again at the earliest possible period, about 17 weeks from the day of weaning.—Immediately after weaning, the sow's food should be reduced. If kept too well, her breeding will be retarded; but when decidedly in pig, she should be kept in good condition.

"Feeding.—By feeding, I mean, not merely fattening, but the proper mode of nourishing the animal from the hour of its birth till the day of its death. For the first six months the young pig must be fed as well as possible on food that will make more bone and muscle than fat. Therefore I should withhold Linseed, which contains three times as much oil as the same weight of oil-cake, and should give them oats and bran in preference to either Indian corn or Barley-meal. After six months, a pig for the next twelve months should merely be kept in growing condition, so as to be strong and healthy. Every ounce of fat laid on growing animals previous to their being put up to fat is a dead loss. [No; a pig without fat is a disgrace. *T. C. J.*] Grass in summer is the natural food for such pigs. I have, at the present moment, December 24, a dozen sows, from 15 to 20 months old, that have tasted nothing but grass for six months, and are still in the field with the shelter of only a linch, but amply supplied with straw to run into when they please. In winter, the grass failing, the pig would turn up the ground in search of roots—then it is upon roots we must feed him. In November I took in all my pigs under nine months old, and from that period have

been keeping them in growing condition on roots and bran. As the spring advances they will have vetches, after that their summer's run on grass, and at the end of the year will come in for breeding sows—that is, as many of them as will breed early; many of the highly-bred animals will decline to breed at all, or delay to a period too late for the farmer's purpose. Sows ascertained to be barren, after the completion of the second year, will share the fate of the majority of their brothers, and be fattened for the market. I don't wash the roots I give my pigs—it may be right to wash for men and sheep who do not eat roots in a state of nature [and have to ruminate]; but as hogs in a state of nature find roots for themselves deeply buried in the earth, and I have never once known a tame pig take a cake or root to a stream to wash them—down they go earth and all. I question if earth be not a proper condiment for a sucking pig's digestion. My orders are for the swineherd to throw some clay into each of the sties daily [Mr. Lawes cured two sickly pigs by giving them a mixture of coal, salt, and superphosphate.] My plan with roots is this—the unwashed carrots or mangel I cut up small, and mix in the proportion of 1 cwt. of bran to a ton of roots. Bran contains in the same weight more than any other meal of the peculiar nourishment that is fitted for growing animals; the bran I mix well with the cut roots in a tub, or on a brick floor; it soon begins to ferment, and this is, I think, a substitute for cooking. [Pulping the roots would be more effective than slicing, to produce fermentation; but according to the Rev. T. C. James' experience, 'steaming the roots and mixing the liquor and the roots with bran produces one-third more profit,' which, of course, pays well for the fuel. *Edit.*] I should confine sows to this mixture and to grass and vetches, and except when in pig or suckling, not feed them more highly—even carrots are too nutritious for a sow intended for breeding, and she must be kept on mangel or swedes and bran. Well-bred pigs will pay, I think, at least as well as sheep, for being depastured during summer on grass. I put up 16 pigs, weighing about 4 stone each, one half on carrots and bran, the other half on mangel and bran. A ton of carrots and a cwt. of bran produced in 18 days an increase of 90 lbs.—deducting in each case one-sixth for offal, estimating the remainder at \$2.50 per 20 lb., and deducting \$1.35, the value of the bran, one lot paid me \$8.00 a ton for carrots, the other \$6.62 for a ton of Mangel. During this period they consumed above 16 lbs. daily, and increased in weight upon the carrots 10 oz., and upon the mangel 8 oz. During a second period of 16 days they consumed daily 25 lb. each, and increased upon the carrots 14 oz., and upon the mangel only 7 oz. This mixture of bran and roots, preferring carrots when to be had to mangel, may be continued when pigs are put up for fattening, gradually adding Indian, or barley or oatmeal. Frequent changes of all kinds of food will admit the following process:—To learn how long you can increase your meal with profit, weigh your pigs weekly, and set their increased weight against their increased cost. Last year I put up 20 pigs to fatten upon roots, and a large proportional quantity of oat and barley-meal. During the first fortnight the increased weight, compared with the food consumed, paid me 9s. 6d.; the second fortnight, 4s. 6d. In the third period of three weeks, they cost me 80 dollars, while the value of their increased weight was but 40 dollars. What happiness for a farmer to think he has bestowed 40 dollars in

actual charity to pig consumers. Pigs are apt to be infested with vermin. If found they should be thoroughly well washed with soft soap, and exceedingly well dried—they may be frequently dry-brushed with advantage, under any circumstances. A pig put to fatten in a thoroughly clean state need not be put to the weekly annoyance of being washed and perhaps not effectually dried.

"Manure.—The ox walks off to market with his whole carcass—bone, muscle, fat and offal—containing an immense quantity of mineral ingredients of the soil, which can only be replaced by the reintroduction, at a considerable expense, of artificial or other manure. The sheep does the same, and half the live weight of sheep is offal, which, with the carcass, is wholly lost to the farm. The pig is most frequently killed on the farm, and the whole of the offal left behind; and then a pig carries away a very small portion indeed of bone and muscle compared with his fat. And that fat is almost exclusively composed of carbon, derived principally from the atmosphere, and which need not necessarily be restored, provided the manure made in producing that fat be applied to the soil, and the young plants stimulated thereby to reimburse from the atmosphere the same amount of carbon. With tolerably good land, and no lack of capital, a farmer cannot do better than cultivate white crops alternately, and, with a moderate dairy, confine his stock exclusively to pigs! Let him consume his oats, sell off both wheat and barley, and buy Indian corn and bran. Indian corn is about the same price as barley, but 60 instead of 52 lbs. to the bushel. A bushel of barley-meal is generally supposed to add 10 lbs. to the weight of a pig. I have found in my latest experiments that a bushel of Indian corn produced an increased weight to a pig of 15 lbs."

Insurance for Farmers.

MR. EDITOR—I have recently sustained a loss of some \$600, by fire. No insurance. This led me to reflect on some means of insuring against such losses.

I believe there are but few insurance companies in the State, and the constitution prohibits their creation by special act; but provides that such corporations may be formed under general laws.

As your paper is neither political nor sectarian; and has perhaps for that reason a more general circulation in this State than any other, I wish to beg the privilege of introducing through it to the public a plan for a general law under which insurance companies may be organized; an additional reason for choosing the *Farmer* for that purpose is, the plan seems better adapted to the rural portions of our State than for cities and villages. The plan is this, let the legislature pass a law constituting each organised township, and each incorporated city and village in the State a mutual insurance company for insuring against losses by fire. Let the act provide that the township boards of the townships, the mayor and aldermen of cities, and the president and trustees of villages, be and constitute the officers of said companies, with power and directions to ascertain the amount of damages sustained when a loss

shall occur; and when so ascertained, that some per cent of the damage, not exceeding two thirds, shall be audited and allowed for the benefit of the person or persons sustaining such loss, and let it be added to the tax roll and collected the same as other taxes and paid to the person entitled thereto. Let the supervisors and assessors at the time of assessing the property in their respective jurisdictions, make a separate assessment of each person's buildings; and in case of loss, each person should be required to pay in proportion to the valuation of his or her buildings, or in proportion to the amount in which they are themselves insured. It would be proper to pay a less per cent of the loss sustained, in case some trade or occupation considered hazardous or extra hazardous had been carried on in, or near the buildings destroyed, or where goods, wares, and merchandise of the same character had been stored. And the act should further provide that no person should be entitled to its benefits in case the same property had been insured by any other company, or in case it was made to appear that the loss occurred through the gross negligence of the owner or occupant, or that all possible exertions were not made to extinguish the fire; the maximum of damages should also be fixed, and in case the amount was large it might be raised during two or more years.

The act should perhaps also provide, that in case the loser should be dissatisfied with the doings of the officers, he might appeal to the circuit court of the county.

The act should also provide that the voters of townships, cities and villages, might vote at some annual or special township meeting whether they would accept the provisions of the act or not. I have made the above suggestions because very many wish to be insured against loss by fire. We are frequently importuned by itinerant agents, of whom we can know nothing, to insure in foreign companies, of the solvency of which we know as little as of the agents.

If the above plan is not feasible, will some of the readers of the *Farmer* propose a substitute, or, if it is simply liable to some objections, will they please point them out and offer amendments.

Hanover, Mich., Sept., 1857.

[We give place to the suggestions of our correspondent, but do not think that any such system as he suggests could be put in the form of a law or would find favor with the community. The mutual system comes nearly up to all his wants, and, if carried out in good faith, which is the great difficulty, in a good system.—Ed.]

Our Note Book—Kalamazoo County.

During the month of November we paid a brief visit to Kalamazoo, and whilst in that village had an opportunity of making some notes on the im-

provements being made in its vicinity. In few instances have we been more gratified than by a visit to the new cemetery, in company with the Hon. D. S. Walbridge, and James Taylor, Esq. The cemetery is laid out on one of the bluffs of rising ground which juts most prominently into the plain, in the midst of which is the village of Kalamazoo. The entrance to the cemetery is located so that a stranger can have no conception of the extreme beauty of the location, until after he has wended his way through devious paths to the summit of the grounds, when suddenly one of the most beautiful landscapes in Michigan lies spread out at his feet. Close up to the foot of the steep bluff, were fields of the most varied hues. The bright green wheat, chequered with the sober dark brown of the new plowed lands, the dull, grayish hue of the pastures, the lighter tinged stubbles, and the long rows of Indian corn shocks, all close to the gazer—while here and there amongst them, with the smoke curling up from each, were handsome residences, and comfortable farm houses, surrounded with outbuildings and orchards; farther off lay the village, nestled amidst its groves of tall trees, from which rose shining spire and steeple—gleaming in the sunshine, still beyond was the silvery river—and away in the distance, stretching over the opposite hills, "massy, and tall, and dark," was the everlasting forest, its dim "shores," marking and seeming as yet to circumscribe, and beat back the waves of human industry, which are incessantly making inroads upon its gloomy dominions:

"Ye blissful sights! ye landscapes ever gay!
What scenes with yours, shall equal charms display?"

There Mr. Walbridge pointed out his own lot, which he had selected for himself and his family, and which was planned out in the form of an arch, of which the graves of himself and wife were to be the keystone, while on either side, to the right and left, were places allotted for all the living members of his family, resident in Kalamazoo and its vicinity. The central space will afford ample room for whatever monumental structure may be deemed fitting. The plan is a very proper one, especially when it is taken into consideration that Mr. Walbridge is the head, and first of the family in this State.

Close to the cemetery is the farm of Mr. James Taylor, who took the first premium at the State Fair with his fat cattle. He has over two hundred acres of land which he is improving gradually, and at his leisure, in the intervals which his business as a butcher affords him. Mr. Taylor is of Scotch birth, but he has grown up with Kalamazoo, and is now one of its wealthiest and most liberal citizens, no work of public utility or benefit is wrought without his hands aiding to forward it. On this farm, he had, when we were there, some very good stock, and amongst them a remarkably excellent three

year old filly, which had taken the first premium at the county fair. He also had grown some fine fruit in his orchard the present year, and of which we are competent to judge, having had a barrel of them to test their quality.

Close to the cemetery, also, is the nursery of Mr. Taylor, who has recently established it, and who is also a florist of no mean skill. He is trying some new shrubs to test their ability to withstand the climate, and amongst others he pointed out the *Mahonia*, young plants of which had withstood the severity of last winter remarkably well. He was also giving much attention to evergreens, of which he has a large supply growing very thriftily. With another year or two Mr. Taylor will have a large number of the best varieties of new, handsome plants and shrubs, as he receives fresh seeds and plants from correspondents in the most famous Scotch nurseries each season, and his own skill enables him to make the best use of them.

Mr. S. C. Chittendon, who carried off so many premiums at the State Fair, has his carriage and wagon factory located at Kalamazoo. His reputation in the western part of the State, as a builder of carriages of every description, is very high. He was turning out a lot of sleighs, when we were there, which were elegant, substantial, and finished in the very best manner. He is very popular, and much liked as a business man.

Close to Mr. Chittenden's work-shop is the plow factory of Mr. Dodge. The plows made here are well liked, and we find that they are superseding the eastern plows which are sent into the State. They are better adapted to the work, and the model of the several kinds suited us well. The moldboards of these plows have the best and most perfect curve we have found on any plow we have seen in this State, and hence its superiority. Wherever these plows have been tried, they have had the preference in Kalamazoo county.

A. Y. Moore, Esq., has given up farming altogether for the present, and we found him busily immersed in the business of selling goods. He has a few good animals around him yet, and we saw in his barnyard the handsomest brood sow of the improved Berkshire breed, which can be had in this State.—She was a picture, long, round, deep, short legged, fine boned, and small head and ears, thin hid, and fine haired, with size enough to have a litter of a race that might be brought to five hundred weight. This sow he wanted to dispose of, and not to kill if he could help it. If not sold, we call the attention of those who want such an animal to as choice a one as there is in Michigan.

Dr. Ransom has Banner Boy in fine growing condition, and we learn he is duly appreciated in the vicinity. We spent a very pleasant evening with the doctor and his lady.

Amongst the colts raised the past season from Healy's Black Hawk, is a remarkably stout one out of a mare owned by Geo. Rice, Esq. This mare is without a pedigree, but yet she has run her mile in 1.47, which is considered pretty fast, even for the best thoroughbreds, with all the advantages of a well prepared course. Few except the very best horses exceed this time.

Horticultural Department.

State Horticultural Society.

In pursuance of the adjournment, the first annual meeting of the Michigan State Horticultural Society will be held at Kalamazoo on Thursday the seventh day of January, 1858. Members are requested to report themselves at the Burdick House to the President of the Society.

Fruits intended for examination should be forwarded, all charges prepaid, to the address of the President.

H. G. WELLS, *President.*

R. F. JOHNSTONE, *Secretary.*

Notes on Fruit.

PEARS.

(Continued from last Number.)

BY T. T. LYON, OF PLYMOUTH, MICH.

Doyenne d'Ete proves to be a very fine pear, ripe this year, the last of August; probably two or three weeks later than in ordinary seasons. Free, vigorous, upright.

Ananas d'Ete has a full crop the past season.—It appears to be the variety figured and described in Hovey's Magazine of Horticulture, but very different in outline, and season, from that described in Downing's Fruits and Fruit Trees. The fruit is rather large, roundish, turbinate; color, rich yellow, when mature, with a rather bright carmine cheek, on exposed specimens; flesh, fine grained, exceedingly melting, juicy, and buttery. Tree, a rather spreading grower. Ripe, this year, the last of September.

Beurre d'Ama is a very strong, but spreading grower. It appears to succeed equally well on pear and quince. Said to bear heavily on alternate years. Fruit, large, not very attractive in appearance, but rich, sweet, and excellent. Season, September.

Golden Beurre of Bilboa is a strong, upright grower, on either pear or quince stocks. Fruit, large, vinous, rich. Season, September.

Buffum is a medium sized, excellent, and profitable fruit, somewhat disseminated in this region.—The tree is a very vigorous, and exceedingly upright grower, and a great bearer. Season, September.

Duchesse d'Angoulene is a very vigorous, upright grower. Said to produce good fruit only on quince stocks. It is large, (under high culture often very large,) rich, and excellent. Season, October.

Dunmore has been noticed heretofore as a very variable fruit. It was larger and finer, with me, the past season, than ever before, notwithstanding the wet, unfavorable season, which may be considered as an indication that it will improve as the trees grow older. It is a fine grower, and a good bearer. September.

Summer Bonchretien is a very old variety, somewhat grown in this vicinity under the erroneous name of Virgalieu, which is a synonym of White Doyenne. It is worthless at the East, as it spots and cracks badly. Here, it appears to be usually fair. The tree is a strong grower, with broad, flat leaves, and grayish brown bark. Fruit, large, with a very long stem; skin, yellow, with an orange blush; flesh, coarse, juicy, sweet. Its permanent success must be considered as doubtful; and its cultivation can hardly be recommended while so many better kinds are in season. Mr. Downing, in the revised "Fruits and Fruit Trees," places it in the rejected list. September.

White Doyenne, the fruit so well known as the St. Michael's of Boston, the Virgalieu of New York, and the Butter Pear of Philadelphia, seems to be entirely at home among the Wolverines, and from its vigor, hardiness, productiveness, and quality of fruit, will, doubtless, form one of our most desirable market pears. It begins to ripen in September, and is said to keep well till December. It appears to have withstood the last two winters better than most other varieties.

Gray Doyenne is a variety of the same season as the above, and of similar quality, but the fruits beautifully russeted. Tree less compact and more straggling in its habit.

Figure is a vigorous grower, with stout, rather upright shoots, and downy, or mealy leaves. The fruit is rather small, and fig shaped, as the name imports. Skin, thick; flesh, sweet, gritty at the core, not very juicy. A pleasant pear for November.

Fondante d'Automne, (Autumn Melting,) is a superior fruit, of fine size, and ranked by Mr. Downing next to the Seckel in quality. Tree a moderate upright grower. The American Pomological Society discourage its cultivation as a dwarf, as it thrives well for a few years, but soon fails. It is a variety that cannot be dispensed with. Season, Sept. and Oct.

Louise Bonne d'Jersey is a strong, upright grower, said to be second rate on free stocks, on which, however, it is little grown. On the quince it is unexceptionable; being hardy, vigorous, long lived, and prolific. In short, if a person were to plant but a single variety as a dwarf, it should be this. The fruit is large, and always of fine quality, which, together with its productiveness, has induced many to plant it, on quince, as a market fruit. October.

Gansel's Bergamot has fruited here for several years, on trees standing in stiff, moist, undrained clay; in which situation, except in warm, dry seasons, it has proved astringent: though otherwise rich and sprightly. On a dry, warm soil, it would, doubtless, succeed as well here as at the East. Season, September.

Verte Longue of Angers (Long Green) has borne

in this region for the last fifteen years. Tree, a strong, very upright grower, with unusually stout, blunt shoots. Very productive. Fruit, truly long and green, very tender and juicy. Soon rots at the core. Season, about the first of September.

Several varieties are known as the Long Green, or Mouthwater, but this appears identical with the one described by Mr. Downing under this name.

Beurre d'Arenburg. This variety is again noticed for the purpose of remarking that the American Pomological Society, at their last meeting, removed it from the list recommended for cultivation on the quince, stating that it appeared to do well for a few years but soon failed; which also coincides with my own experience. It was also urged, by some of the speakers, that it is a poor grower on free stocks. With me, however, it has grown quite as freely as the average of varieties, and has also borne quite young. Season, from November to February.

T. T. LYON.

Standards vs. Rootgrafts.

R. F. JOHNSTONE, Esq.—*Dear Sir*.—It was not my intention, in reviewing Mr. Hathaway's article in the October number, to question the correctness of his position that "standard grafts, as a rule, are more hardy than rootgrafts," but to educe the real cause of this; to object to his application of it; and to offer a substitute of my own.

Mr. H. dissents from my position, that cultivated varieties and seedlings, taken at random, are alike hardy, and, in his turn, asserts "that, with rare exceptions, the finer the fruit the more tender the tree." It is true that writers have advanced the dogma, that, as Nature only aimed at the production of perfect seed, the production of a superior quality or quantity of fruit, must be considered as resulting from something akin to disease. That this is not a correct conclusion; may be argued from the fact that trees of the same variety are far more hardy, and at the same time more productive, when grown in open situations; while the quality of the fruit is also improved.

People usually draw conclusions from what they see around them, and, as Mr. H. has availed himself of this practice, I may be allowed the same privilege. Let us, then, look at some of the finer varieties of apples, and note their respective hardiness. Rhode Island Greening, Northern Spy, Swaar, Red Canada, Fall Pippin, Yellow Bellflower, Jonathan, Early Harvest, Red Astrachan, American Summer Pearmain, and a long list of others, nearly or quite as good, are entirely hardy; while the only tender varieties that will at all compare with them in quality, are Baldwin, Roxbury Russet, and Esopus Spitzenburg.

In such matters much allowance is doubtless to be made for difference of climate and exposure.—Mr. H. has five trees of Esopus Spitzenburg, grafted

five feet high, on seedlings; all more or less injured while the stock escaped. On the contrary, I have over a dozen trees of this variety, one-half root-grafted, and the other topgrafted on seedlings.—None of the rootgrafts are fatally injured, while at least two of the seedling stocks were killed at the surface of the ground. Of about ninety trees of Northern Spy, more than one fourth budded or grafted on seedlings, above the surface, only a single tree is killed, and that through the tenderness of the seedling stock.

But, passing by minor matters, I will proceed to the chief matter upon which we are at issue, viz: the best mode of counteracting the acknowledged tenderness of some varieties of fruit. I must be allowed, with all due deference, to reiterate my former objections to low-budded or grafted trees. If I were asked to state, from my own observations, at what point of a tree the effects of our winters are most severely felt, I would unhesitatingly answer: at the surface of the ground, or of the snow. If this be admitted, the inference necessarily follows, that trees should be so propagated as to strengthen that part, if possible. This, I urge, is just what Mr. H.'s process does not do: but, that, on the contrary, its effect is precisely the reverse, since it is, doubtless, true, that the tenderest point in the tree, as has been heretofore stated, is at the union between the stock and the graft.

In some portions of the country, it is stated that the tops of trees are killed outright, by the severity of the winters; in such a case the mode of propagation would be of less import; but throughout a large portion of the country, as in this region, the injury is confined to the lower portion of the trunk, or to within two or three feet of the ground. Mr. H. certainly will admit that the seedling stock may prove tender; and, if the graft is also tender, the chances of failure are doubled, since both are within the limit of greatest exposure.

On the other hand, in order to show the advantage of the method I have proposed, let Mr. H. take one of those same seedling stocks, and graft it, entirely below the surface, with a scion of Northern Spy; which, as he says, never winterkills. I ask, is a tree, thus produced, any less hardy for being grafted a foot lower? But, should the seedling prove tender, it is, by this process, placed beneath the surface; where, I venture the assertion that it is safe against any exposure that would not kill the tree, root and branch.

Having thus produced a root, and trunk, hardy beyond all perhaps, we may, at the point where we wish to commence a top, insert a scion of such variety as we may desire, whether hardy or tender, with the assurance of entire safety; unless, indeed, the variety should prove too tender for open culture.

T. T. LYON.

Downing's Fruit Book.

THE FRUITS AND FRUIT TREES OF AMERICA; Or the Culture, propagation and management, in the garden and orchard of Fruit trees generally; with descriptions of all the finest varieties of fruit, native and foreign, cultivated in this country, by A. J. DOWNING. Revised and corrected to the present time by Charles Downing. Published by Wiley & Halstead, 351 Broadway, New York.

No work on the description and classification of American fruits has been of more benefit than Downings work, and none has occupied a place more eminent as a reliable standard authority. When it was first published, it filled a void which was felt as a grievance by every intelligent cultivator of fruit, and the author though falling into some mistakes as it was to be expected he should, gave a very complete description of nearly all known fruits, and what was still better, brought order out of the chaos of names and varieties which were known up to the time when his work was sent to press. But whilst this book did such good service for what was past, it made a large amount of work for the future, and set numbers at work to compare, correct and define what the fruits were which they were growing. The amount of information thus elicited, for the past eleven years, has been gathered into form in the new edition prepared for the press by Charles Downing, the brother or the late author. This work could have fallen into no more worthy hands. As a practical pomologist the present editor is fully equal to his distinguished brother, with a great deal more caution in arriving at correct conclusions, he has accordingly now given us an edition which will be of the utmost value.

The new Edition contains over one hundred and sixty pages more than the old one, an increase caused solely by descriptions of new fruits. Nothing will show the value of the new edition better than the index to the apples, which in the new edition contains 1145 names, while in the old edition there are but 483. Of pears the old edition gave but a little over 700 names, while this new edition gives about 1218. In other fruits there are as great additions in proportion, and from this comparison, we can judge somewhat of the value of the book. No orchardist or nursery man can afford to be without it.

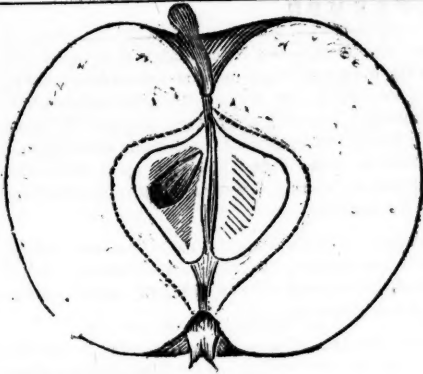
Mr Downing acknowledges the assistance he has received in regard to the fruits of this state, from T. T. Lyon, Esq., of Plymouth, and Dr. D. K. Underwood of Adrian.

The Fruits of the Fruit Committee.

The Fruit Committee named the *Autumn Sweet Bough*, *Gravenstein* and *Fall Pippin*, as three apples worthy of general cultivation in all orchards in Michigan for marketable, fall or winter fruit.

AUTUMN SWEET BOUGH.

Late Bough. Fall Bough. Summer Bellflower. Philadelphia Sweet.



its beauty, large size, and its delicious flavor for the table or for cooking, render it very popular.

Fruit very large, roundish, generally a little flattened, pretty regular, sometimes with obscure ribs at the eye. Stalk rather long, three-fourths of an inch, projecting considerably beyond the fruit, (which distinguishes it from the Holland Pippin,) set in a rather small, shallow, round cavity. Calyx not very large, rather deeply sunk in a round, narrow cavity. Skin smooth, yellowish-green, becoming a fine yellow, with often a tinge of brownish blush, on one side, and with a few scattered dots. Flesh white, very tender and mellow with a rich, aromatic flavor. October to December.

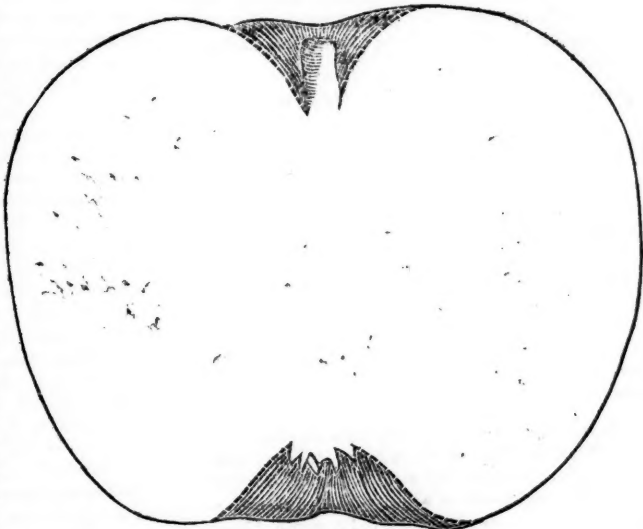
There are several spurious sorts, the true one is always rather flattened, with a projecting stalk.—(See Holland Pippin.)

Origin unknown. Tree vigorous, upright, very productive. One of the very best dessert apples of its season. Fruit medium, conical, angular. Skin smooth, pale yellow, sprinkled with a few brown dots. Stalk of medium length, rather slender, inserted in a deep narrow cavity; calyx closed; segments long; basin deep, corrugated; flesh white, very tender, with a sweet, refreshing vinous flavor. Last of August to first of October.

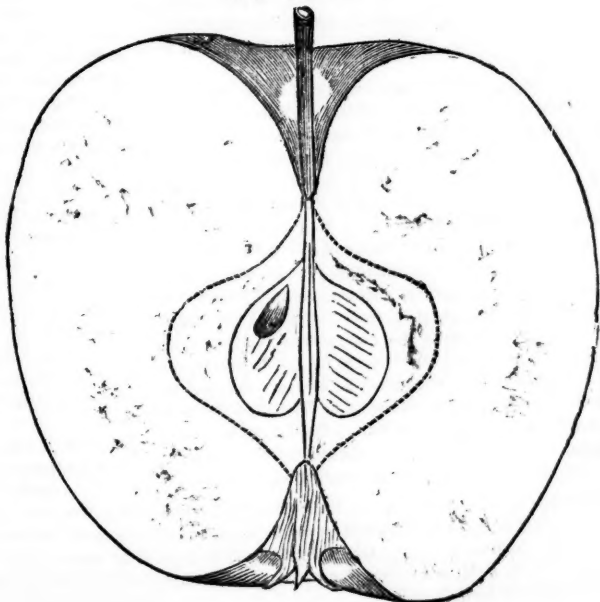
GRAVENSTEIN.—*Grave Slijv*.

A superb looking German apple, which originated at Gravenstein, in Holstein, and is thought one of the finest apples of the North of Europe. It fully sustains its reputation here, and is, unquestionably, a fruit of first rate quality. Fruit large, rather flattened, and a little one-sided or angular, broadest at the base. Stalk quite short and strong, deeply set. Calyx large, in a wide, deep, rather irregular basin. Skin greenish yellow at first, but becoming bright yellow, and beautifully dashed and pencilled, and marbled with light and deep red and orange. Flesh tender and crisp, with a high flavoured, somewhat aromatic state. Ripens with us in September and October, but will keep a month longer. The trees are very thrifty, strong growers, and bear young.

FALL PIPPIN.—The Fall Pippin is, we think, decidedly an American variety, Thompson and Lindley to the contrary, notwithstanding. It is, very probably, a seedling raised in this country, from the *White Spanish Reinette*, or the *Holland pippin*, both of which it so much resembles, and from which it, in fact, differs most strongly in the season of maturity. The Fall Pippin is a noble fruit, and is considered the first of autumn apples in the middle states, where



Gravenstein



Fall Pippin.

Horticultural Notes.

The Delaware Grape was amongst the varieties shown at the meeting of the committee of the State Pomological Society of Ohio. This variety ripens from two to three weeks earlier than the *Isabella*, and is very hardy. The fruit also seems to withstand a moderate freeze.

The London Horticultural Society have determined to hold a great exhibition of fruit on the 3d and 4th of November, 1858.

A pomegranate has ripened in the open air in England, on the south side of a wall in a garden in Essex county.

A celebrated Morello cherry tree, supposed to have been planted in the time of Henry the Eighth, at Whalley Abbey in Lancashire, died during the past summer. Its height was ninety feet. Even the mistletoe sought its mighty shadow in one of the places where it was most appropriate.

Rivers has issued a new edition of his *Rose Amateurs Guide*, in which he gives many very excellent practical directions for the treatment of the Rose. He recommends the Manetti Rose stock as best for dwarfs, and as really the only stock on which the Highbred Perpetuals will do well.

A New English Apple.—A seedling raised from the Newtown Pippin of the United States has been raised in England, and called the Harrison Pippin. The *Gardeners Chronicle* states that it resembles the London Pippin, and is somewhat similar to the White Calville in quality. It has a clear, warm, greenish-yellow skin, freckled with russet, and delicately tinted with red next the stem. It attracts much attention in the fruit stores.

A MIRACULOUS CORN.—There are new circulars being issued which proclaim the *WYANDOTTE PROLIFIC CORN*, the wonder of the age. Its yield is terrific—20 stalks from a single grain, and 128 bushels of shelled corn a common product. This is all certified to by respectable parties, and of course we have to believe it. It must be so, or it would not be put in print! especially by those who have the corn for sale at the rate of \$4 00 for enough to plant an acre.

The Wyandot corn is a new variety of white corn, said to have come originally from California, where it was cultivated by a tribe of Indians of that name. It stools out more than any other variety, and if the accounts are correct, it yields remarkably. Mr. Wm. Cochrane of Cornuna, Shiawassee county, the agent of Messrs. Penfield, Burrall & Co., nurserymen, Lockport, N. Y., called upon us on the 25th, and showed us an ear of this corn, which he had bought at Evansville, Indiana. It was one of fourteen which had grown from a single grain. The ear was handsome in shape, about 11 inches long, and the grains of corn were large, white, flat, compact and regular. The question is, will this corn ripen as far North as this. It did not ripen in New York this past season, but it was an unusually wet, cold fall, and spring. The Wyandot corn certainly is worth trying, but don't depend upon it for a crop, and don't get in a fever about it till after this money crisis is fairly put out of the way, or under ground.

☞ The Annual Meeting of the Fruit Growers' Society of Western New York is to be held at the Court House in Rochester, on Wednesday, the 6th of January, 1858, commencing at 10, A. M., and continuing two days. Lectures on pruning will be delivered.

MICE AND TREES.—Some unthinking individuals are apt to throw straw or coarse manure around fruit trees to protect them during the winter. The straw makes a first rate protection for mice, where they can gnaw the trees at their leisure under the most comfortable conditions.—It is better to either stamp down the snow very solid around trees or to scrape it away altogether, where injury is feared from mice.

☞ THE *LOGAN GRAPE* is the name of a new variety, which is considered earlier than the Delaware. It was exhibited by Dr. Grant of Iowa, at the last meeting of the Mass. Horticultural Society.

THE DIOSCOREA.—Hoveys Magazine says: "Another years experience in the culture of the Dioscorea has given us a higher estimate of its value, and it is probable, as we learn how to produce it in greater perfection, it will continue to improve in the estimation of all who undertake to raise it. There appears to be little or no doubt of the superior excellence of the yam, among all who have had a good opportunity to test it; the only doubt seems to be in regard to its profitable culture—whether it can be raised in anything like the ease and certainty of the potato, and yield as average a crop as that vegetable. In this respect more experiments are wanting to arrive at a satisfactory result, and for the present this must remain an open question. If its excellence as a nutritious esculent is fully established, time will settle the question of its profitable culture upon an extensive scale.

The present year several large and very fine specimens have been produced, weighing from one to two and a half pounds each, a more gratifying result than many doubting persons anticipated. At the United States Agricultural Show at Philadelphia, last year, some very fine specimens were contributed by Messrs. Prince; and this year, at the Fair of the American Institute, N. Y., just closed, the same persons presented tubers of similar quality. At the former show the yams underwent the trial of a committee of gentlemen in regard to their excellence for the table, and the report of that committee was unanimously, we believe, in favor of the dioscorea, as a most delicious and nutritious vegetable, every way worthy the attention it had received from the distinguished professors and agriculturists who took so deep an interest in its introduction to France.

Our own specimens this year have been very much superior to those of previous years, though without any very particular cultivation. The tubers were planted in the open ground as soon as the weather would allow, and without any preparation of the soil, in a level bed. The earth was not ridged up as we think it should be. They grew, however, rapidly, the vines covering the ground, and the tubers upon digging weighed from one to two pounds each; they were about fifteen inches long, and quite as large for two-thirds their length towards the bottom as the sweet potatoes usually sold in our markets.—Altogether the experience of the present year has been highly satisfactory, and we anticipate a far greater result from the introduction of this root than has heretofore been expected.

We have no knowledge of the progress made in its culture in France the present year; it is rather too early to hear of the results of their experiments. Undoubtedly its culture has been made a special object in some of the governmental institutions, and the public will be apprized of their importance. We shall look forward to some account of them in the horticultural journals of the day, and give the results in our pages."

The Household.

"She looketh well to the ways of her household, and eateth not the bread of idleness."—Proverbs.

EDITED BY MRS. L. B. ADAMS.

Lines

Addressed to the Students of a certain School, after hearing several of them read compositions entitled "Winter."

BY MRS. L. B. ADAMS.

As round this cheerful room I glance
On merry boys and bright-eyed girls,
On youths whose eyes with pleasure dance,
On blooming maids with flowing curls,
How can I think that Winter's reign
Has shrouded all the world in gloom?
To talk of frost and snow were vain,
In such a garden filled with bloom!

But, Mary murmurs, "flowers are dead;"
Nay, look on Ellen's cheek of rose,
She sees with joy the blushing red
That on your own in beauty glows.

On your fair brows the lilies shine,
The violet blossom in your eyes,
Your clustering curls like tendrils twine,
And on each lip a rose-bud lies.
Your smiles are like the light of spring
They waken answering smiles again;
Your gentle words are birds that sing—
Your deeds of kindness ripened grain.

Nor want you in your garden fair
Sweet flowering shrubs, and stately trees
These manly youths, whose virtues are
Like foliage in the summer breeze,
And these fair-haired and laughing boys,
Around whose young hearts, all in tune
The pulses play with ceaseless noise,
Like bees and humming-birds in June,
These are your stately forests, growing.
And these the promise-bearing shoots,
And here the stream of knowledge flowing,
Refreshes all their branching roots.
While thus 'mid trees, and blooming flowers,
And tender plants that round him rise,
Your careful Gardener spends his hours
How can he think of Wintry skies?

Look round the garden where ye stand
And count the blossoms one by one;
Behold your sister flowers expand
Like roses opening to the sun.
Ah, blushing roses, vainly now
You tell us Summer's blooms are o'er!
And, rose-bud lip and lily brow,
Repeat those chilling words no more!
Within your own warm-beating hearts
A genial climate all may find,
And thence each gentle thought imparts
Its fragrance to the world of mind.
But, lest some poisonous weed appear,
Or thistles spring to give you pain,
Yield to your Gardener's watchful care,
'Tis his to guard, to prune, to train.
He walks amid you day by day,
And joys to see your virtues bloom
Like flowers beneath the Summer ray,
Secure from storms of grief or gloom.

Here in your midst a fountain Springs;
The fount of Learning, clear and bright,
And books, like birds with printed wings
Beside its sparkling streams alight.
They talk to you without a sound,
They teach you knowledge silently,
And where their gath'ring place is found
There shoud' you, willing listeners be.

O, lilies bathe your foreheads fair
In learning's pure, pellucid wave;
And roses let your beauties rare
Illumine the waters as ye lave.
Drink from the fountain, stately trees;
And, little flowering shrubs be glad,
For He who made the spring time breeze
Ne'er meant his blossoms should be sad!
While thus in youth and beauty's glow
We'll banish thoughts of winter's gloom;
Why should we think of frost and snow
In such a garden filled with bloom?

Thoughts for the New Year.

We do not believe in preaching long funeral sermons on the death of the old year, nor of ushering in the new with a christening of promises and resolves as vapid and volatile as water thrown upon the air; and yet, if there is one season more than another, when we are inclined thoughtfully to review the past, and to look forward with renewed hope to the future, it is this. It seems a kind of stopping place on the road of life, where we may pause to take breath in our hurried march, where we may consider upon the ways we have come, be grateful for the blessings that have cheered us, congratulated ourselves on having overcome and passed by the difficulties and dangers that would have hindered our progress, and gather up new strength and courage for the conflicts we must meet in the pilgrimage yet before us. For, women though we are, we have conflicts, as real, as trying, and of as much consequence to us as are the fiercer battles of life to our fathers, brothers and husbands. And we need to gather our armor of strength and courage about us, that we may not faint nor be overcome.

As women, too, we have much to be grateful for during the past few years. By whatever means it has been brought about, there is certainly a change in public sentiment in regard to the claims and rights of woman, and our sex now occupies a better, truer, more respectable, and at the same time more responsible position than ever before. With the "Woman's Rights" movement in detail we had little sympathy, but believe that on the whole it has done a vast amount of good by waking up the public mind, and forcing people to think. Men have thus come to look upon women as reasoning, sensible human beings, and have, in measure, recognised their right to a share in the business of life and its rewards, as well as in its follies and triflings. It is beginning to be felt that they are fit for something besides helpless pets or hopeless drudges. It is one of the triumphs of this age of innovations and reforms, that woman may be permitted to work in whatever vocation she finds best suited to her taste and strength, and is not, as she has been to too great an extent, driven to marry for a home and living, or, to the almost sole remaining alternative—the needle; and, in accomplishing this triumph, the bold innovations, notwithstanding much that was both extravagant and

ridiculous in their course, have conferred a blessing upon the world. In the chances of life it often occurs that women are thrown out of the household circle, and they, with the few, comparatively speaking, who were never in it as practical housekeepers, have particular cause to be glad of the breaking down of old prejudices, that they may step forth into other and pleasanter paths than the sorrow-paven one in which so many have battled with the needle's point against beggary and starvation.

Still, after all that has been said and done about opening to woman new, and, by her, untried fields of labor, there is much room for improvement in the limits to which custom has heretofore confined her. Whilst there must be mothers, home must be their legitimate sphere, and the duties of the household must be the business of their lives. But even here innovations have come with their blessed fruits, and the genius of invention which has so long been busied in contriving labor-saving machinery for man, now offers its aid to woman also. It is some time since the factories took the distaff and wheel from her hand, and the lumbering loom from her kitchen; washing machines and patent soaps have been invented to lighten her labors in that department, and now the sewing machine is ready to take the needle from her fingers, to relieve her weary eyes and hands, and leave her liberty and leisure—for what? Yes, that is the question. What will woman do when she is no longer a drudge? Will she fold up her hands and sit in idleness. We answer, no. It is not in her nature to do so. Women have been too much cramped by custom, too closely confined to one routine of thought and labor, and too heavily burdened with cares, to admit of their being what they might be; and we believe that when the weight is lifted from their shoulders, and they are permitted to stand upright, to look upon the world from a right position, and to know what they should be, they will not be backward in doing the work for which they were created. They will be better wives, truer mothers, and nobler daughters than they have ever yet had a chance to be. They will love home more, for its associations will be pleasanter. Mothers with leisure to be the companions and instructors of their children will train up nobler men and women than can be made of the half terrified and wondering little ones who are regularly bundled up and hurried from the house the moment their meals are swallowed, in order to be "out of mother's way." No matter whether they are on the street or in the crowded school room, only so that they are "out of the way," and mother can sit down to her endless stitching, and crush out the sympathies, and cramp her soul undisturbed, without a thought of the alienation she is bringing about between herself and children. Poor mother! She cannot help it. The little ones must be clothed and fed at any sacrifice, and when

all the energies of life are exhausted in doing that, there is little opportunity for moral and intellectual culture, or for the encouragement of social accomplishments and home virtues. And what a broad, uncultivated field is here, a field in which woman was found to be the chief worker, and in which she will work with an energy and success that will repay the world for an outlay of expense or mechanical ingenuity that will aid in giving her the opportunities she wants.

Let us then look with gratitude upon the past, being thankful that the ground has been broken, and the good seed sown. To the future we cannot help looking with hope, and, hoping, let us labor, not in public places, as in the pulpit, at the corners of the streets, or on the house tops, but as women, quietly, earnestly, perseveringly, in any and every situation where our lot may be cast. But the happiest the holiest place for woman in her own home, and we believe that when her position there is fully appreciated by herself and by the world, she will there find scope for her highest ambition, and there realize her brightest dreams of happiness.

The Philosophy of Bread Making.

The following remarks on the philosophy of bread making are from Johnston's "Chemistry of Common Life," a work which contains much useful and interesting information in regard to the food, beverages and narcotics in common use:—

"When the grain of wheat is crushed between the stones of the mill, and is then sifted, it is separated into two parts—the bran and the flour. The bran is the outside, harder part of the grain, which does not crush so readily, and when it does crush, darkens the color of the flour. It is therefore generally sifted out by the miller, and is used for feeding horses, pigs, and other animals, or even for applying to the land as a manure.

If the flour be mixed with a quantity of water sufficient to moisten it thoroughly, the particles cohere and form a smooth, elastic and tenacious dough, which admits of being drawn out to some extent, and of being moulded into a variety of forms. If this dough be placed upon a sieve or on a piece of muslin, and worked with the hand under a stream of water as long as the water passes through milky, there will remain at last upon the sieve a white sticky substance, very much resembling birdlime. This is the substance which gives its tenacity to the dough. From its glutinous character it has obtained among chemists the name of gluten. When the milky water has become clear by standing, a white powder will be found at the bottom of the vessel, which is common wheaten starch. Thus the flour of wheat contains two principal substances, gluten and starch. Of the former, every 100 lb. of fine English flour contain about 10 lb., and of the latter about 70 lb."

"When a little yeast is added to the flour before or while it is being mixed with water into a dough, and the dough is then placed for an hour or two in a warm atmosphere, it begins to *rise*—it ferments, that is, swells or increases in bulk. Bubbles of gas (carbonic acid gas) are disengaged in the interior of the dough which is thereby rendered light and porous. If it be now put into a hot oven, the fermentation and swelling are at first increased by the higher temperature; but when the whole has been heated nearly to the temperature of boiling water, the fermentation is suddenly arrested, and the mass is fixed by the after baking in the form it has then attained. The formation of hard crusts on the loaf may be prevented by rubbing a little melted lard over it after it is shaped, and before it is set down to rise, or by baking it in a covered tin.

It is now newly-baked bread, and if it be cut across it will appear light and spongy, being regularly sprinkled over with little cavities, which were produced in the soft dough by the bubbles of gas given off during the fermentation. This fermentation is the consequence of a peculiar action, which yeast exercises upon moist flour. It first changes a part of the starch of the flour into sugar, and then converts this sugar into alcohol and carbonic acid, in the same way as it does when it is added to the worts of the brewer or the distiller. As the gas cannot escape from the glutinous dough, it collects within it in large bubbles, and makes it swell, till the heat of the oven kills the yeast plant, and causes the fermentation to cease. The alcohol escapes, for the most part, during the baking of the loaf, and is dissipated in the oven.

New-baked bread possesses a peculiar softness and tenacity which is familiar to most people, and though generally considered less digestible is a favorite with many. After two or three days it loses its softness, becomes free and crumbly, and apparently drier. In common language, the bread becomes stale, or it is stale bread. It is generally supposed that this change arises from the bread becoming actually drier by the gradual loss of water; but this is not the case. Stale bread contains almost exactly the same proportion of water as new bread after it has become completely cold. The change is merely in the internal arrangement of the molecules of the bread. A proof of this is, that if we put a stale loaf into a closely covered tin, expose it for half an hour or an hour to heat, not exceeding that of boiling water, and then remove the tin, and allow it to cool, the loaf, when taken out, will be restored in appearance and properties to the state of new bread.

The quantity of water which well-baked wheaten bread contains, amounts on an average to about forty-five per cent. The bread we eat, therefore, is nearly-half water;—it is, in fact, both meat and drink together.

The flour of wheat and of other kinds of grain contains water naturally, but it absorbs much more during the process of conversion into bread. One hundred pounds of fine wheaten flour take up fifty pounds, or half their weight of water, and give 150 pounds of bread. Thus, 100 of English flour and 150 of bread contain respectively—

	The flour contains	The bread contains
Dry flour.....	84	84
Natural water.....	16	16
Water added.....	—	50
	100 lb.	100 lb.

One of the reasons why bread retains so much water is, that during the baking a portion of the starch is converted into gum, which holds water more strongly than starch does. A second is, that the gluten of flour, when once thoroughly wet, is very difficult to dry again, and that it forms a tenacious coating round every little hollow cell in the bread, which coating does not readily allow the gas contained in the cell to escape, or the water to dry up and pass off in vapor; and a third reason is, that the dry crust which forms round the bread in baking is nearly impervious to water, and, like the skin of a potato which we bake in the oven or in the hot cinders, prevents the moisture within from escapeing."

TO COOK BEANS.—Mr. Baldwin, our agent, writing from Commerce, Oakland county, makes the following remarks about beans.

"The way to cook beans, is to parboil thoroughly, change the water, and after the dish is filled and the meat laid on to bake, sprinkle over the top a table spoonful of sugar to a six quart dish of beans. So says Mrs. James Evans, of this place; and I can testify to the enjoyment of an excellent dinner of the same, October 23, 1857. I found the beans thus cooked a good thing for a hungry man's complaint."

Answer to Enigmas in December Number.—Miscellaneous Enigma, STUMP MACHINE. Geographical Enigma, MICHIGAN STATE HORTICULTURAL SOCIETY. Answer by L. W. Wait, Walker, Kate Richman, Saginaw city; F. J. Wait, Grand Rapids; Ellen, of White Lake; S. M. Pearsall, Grand Rapids; Louise Woodman, West Novi; R. S. Brownell, Tyrone; S. E. Bronson, H. E. Bronson of Victor.

Charade.

My first on foreign churches you may greet;
At home its seldom found in church or street;
My second oft is used by household care,
To make old garments fit for folks to wear;
My whole may well describe ill-humored folks,
Who knit their brows at puns, charades and jokes.
ELLEN, of White Lake,

Geographical Enigma.

Take 17 letters,

My 12, 4, 5, 12 is a river in Europe,
My 6, 9, 3, 13, 12, 2, 7, 8, 1, is a village in New York.
My 15, 10, 13, 12, 9, 15 is a town in Kalamazoo Co.
My 5, 8, 9, 17, 16, 1, 15, 14, 12 is a city in Maryland.
My 18, 14, 10, 12 is a town in Oakland Co.
My 8, 12, 4, 6, 3 is a town in Genesee Co.
My 2, 15, 9, 12 is a town in Lenawee Co.
My 4, 12, 10, 4, 16, 12 is a town in Ingham Co.
My 12, 14, 16, 12 is a town in Monroe Co.
My 6, 11, 8 is a town in Kent Co.
My 10, 8, 4, 17 is a river in Midland Co.
My 17, 15, 4, 12, 11, 15 is a city in Ohio.
My 1, 8, 4, 8, 14 is a lake in Sweden.
My 8, 13, 4, 6, 10 is a range of mountains in Africa.
My 7, 12, 13, 2, 15, 16, 17 is a city in Wayne Co.
My 4, 16, 9, 6 is a town in Washtenaw Co.

My whole is a name and place of residence we often see in the Farmer.
LETTIE BOWEN, Lima.

MICHIGAN FARMER.

ROBERT F. JOHNSTONE, EDITOR.

DETROIT, JAN., 1858.

VOLUME SIXTEEN.

Premiums for 1858.

For the purpose of extending the circulation of the Farmer, and thus enlarging its area of usefulness, the following cash premiums are offered:

For the largest list of Subscribers sent in previous to the first of April next with the money, at full Club rates, \$40 00
For the second largest list, with the same provisions, 25 00
For the third largest list, do 15 00
For the fourth largest list, do 10 00
For the fifth largest list, do 8 00
For the sixth largest list, do 7 00
For the seventh largest list, do 5 00
For the eighth largest list, do 4 00
For the ninth and tenth largest lists each 3 00

No names will be counted, that are not accompanied with the money.

The new edition of Downing's Fruits and Fruit Trees of America, is offered as a premium to all who will send in clubs of Fifteen prepaid names.

The notes of the Michigan Insurance Bank, of the Tecumseh Bank, of the State Bank of Indiana, of the Bank of the State of Indiana, of solvent Ohio Banks, solvent eastern Banks and the Canada Banks, solvent Illinois and Wisconsin banks and of the Peninsular Bank and Farmer's and Mechanic's Bank taken at par.

The Michigan Farmer and The Horticulturist or Honey's Magazine of Horticulture will be sent for one year for \$2 50. Agents and persons getting up clubs should be particular to send in names as fast as received, and to make their lists as full as possible before the first of the new year.

The New Year and the New Volume.

During our ramblings over portions of the State the past season, we have met many subscribers who have taken much pleasure in not only informing us that they had been subscribers to the *Michigan Farmer* since it was first started, but have also shown us many of the early volumes carefully piled away for future reference, as recalling times of trial and earnest endeavor to improve, when there was but little encouragement. With one of these men, the Hon. William Yerkes, of Northville, we spent a day but a short time ago, when he showed us the land he had surveyed and selected when there was hardly a settler, except himself for miles. He took us over a section which he then did not consider as at all fit for tillage, but which forms now one of the richest tracts in the State, and which is settled by Mr. Clinton Johnson, and his children, who all have farms where but twenty years ago all thought it was nought but a swamp. The fifteen years during which the *Michigan Farmer* has had existence has witnessed many changes like these and its fifteen volumes also have done more to bring them about than any other periodical of a like kind. We know

that the duty of pushing forward improvement is not yet fulfilled, and we enter upon the new year with a stronger purpose a better experience and greater ability to aid in the development of the agricultural wealth of the Peninsular State, than we have ever before enjoyed.

The volume which has just closed contains more information with regard to the state, more suggestions suited to Michigan agriculturists, more details of experience with land, soils, stock, crops of use to them, than all other papers in or out of the state.

In relation to stock how different is the feeling existing in regard to improved breeds to what it was five or six years ago, and how well posted is each of our readers as to the merits and the purity of each animal that has been brought into Michigan. What other weekly or monthly has done a tithe of the service to the farmers of Michigan we have done?

Again look at the different spirit there is existing in regard to the improvement of the horses of the state. Are we not full two hundred per cent better off as to their quality and their actual working value, than we were five years ago. Have eastern or other periodicals fostered this improvement, or done anything to compare with what we have done for Michigan.

And so with regard to the products of the field and the orchard. To what other journal but the *Michigan Farmer*, can any one of you turn for information relative to the crops or the fruits of your own state? or what other journal has taken such pains to make Michigan the most advanced of all the states in agricultural wealth? Think of these things, kind readers, and give us again the benefit of that encouragement which will not only enable us to render you and the state still better service, but will also aid us whilst making improvements all around us, to improve the *Farmer*.

For the greater part of the past year, we have given the *Farmer* our whole time and attention; during the coming year we shall make the agricultural interests of the state our sole study; and shall expend much time in visiting its various sections especially those where we have not yet been. We shall watch with care the improvements which are constantly being made, both at home and abroad, and shall keep our readers posted with regard to every matter of interest to them. We shall record the sales and introduction of stock, of all kinds, and in our Stock Register, we shall enter the pedigrees of all animals of thoroughbred races, which may be thought worthy and fit to improve the stock of the state. To conclude we shall make the volume for 1858, the best and most important one to the farmers of Michigan that has yet been issued. Give it your own support, and let each of you make your neighbor send in his subscription along with your own! Meanwhile we wish you all a happy new year.

Michigan Stock Register.

Shorthorns.

NO. 55.—YOUNG NELSON.—Bull, a spotted roan in color. Calved March 20, 1850. Bred by Messrs. Ransom & Baker, of Hoosick Rensselaer county, New York. He was awarded the first prize in his class at the Michigan State Fair of 1851, being then owned by Silas Sly of Plymouth.

Sire, Regent, 2115 A.

Dam, Young New Cow, bred by Matthew Bullock of Albany, direct from his imported New Cow, out of Marmion, 100 A.

g. dam, by Cox's imported Nelson, 1914 A.

g. g. dam by Cox's imported Comet, 1888 A.

Regent was bred by L. C. Ball, Hoosick, and was out of Bellflower by imported Duke of Wellington 55 A. Bellflower was got by Ajax 2944 E. out of Diadem, by Washington 1866 E.

NO. 56.—LADY WHITE JACKET.—Cow, red and white. Calved June 2, 1853. Bred by Silas Sly of Plymouth, Mich., and now owned by S. W. Palmer, Norvell Jackson Co., Mich.

Sire, Young Nelson, No. 55, Mich. Stock Register

Dam, White Jacket, by Young Nero, 2438 A.

g. dam, by Marmion, 100 A, bred by E. P. Prentice Albany.

g. g. dam, by Nero 111 A. (4556 E) bred by E. P. Prentice, Albany.

g. g. g. dam, by Nelson 1814 A. imported by Cox's of Albany in 1823.

g. g. g. g. dam, by Comet 1883 A. same importation.

g. g. g. g. g. dam, a cow of Cadwallader Colden's importations.

PLEASANT LANDLORDS, AND GOOD HOUSES.—Every one who visits Marshall, we presume, knows Dr. Facey of the Facey House; if they don't it is time they did, as he is one of the most agreeable of landlords, a first rate judge of a horse, and attentive to his guests and his business. What can we say more, except that in proof of what we assert, he bore off the first premiums on matched horses, at the State Fair, and purchased the first premium gelding, that he might show his guests and their ladies the beauties of Marshall in the neatest turn out to be found in the State. At Kalamazoo, we found C. T. Borkey, formerly of Detroit, doing the honors of the Burdick House. Mr. Borkey makes a most excellent and popular superintendent, and being a favorite and well known in Detroit, almost every one of our business men gives him a call.

✂ We send this number of the *Farmer* to all subscribers who have not ordered it discontinued, in accordance with our usual custom. Those who discontinue should be particular to return it with the name of the post office written upon it, from which it is sent.

✂ Agents and those engaged in getting up clubs, should forward their lists as fast as possible, that

new subscribers may be supplied at once with the first numbers.

ACKNOWLEDGEMENTS.—We have received from John Bachman, Esq., a very able report on the Asiatic or Cashmere Goats imported into the country by Richard Peters of Georgia. This report was made by a committee of the Southern Central Agricultural Association, of which Mr. Bachman was chairman.

We have on hand, for publication, sketches of Ohio farming, by a Michigan man, also some letters on the agriculture of France, our own notes on Kalamazoo. Jackson, Calhoun and St. Joseph counties, a letter on the tobacco question in answer to our remarks, a letter on breeding horses, an article on Sorghum by D. D. Tooker, and several other very interesting articles which will appear as soon as possible. Most of the above were received too late for this month. Always mail your letter so it will reach us by the 20th at farthest.

✂ Our thanks are due to Linus Cone, Esq., who has kindly remembered us by a barrel of very choice apples, containing Talman Sweeting, Autumn Bough, the Reinette, and other like varieties.

warded us a like compliment, containing Fall Pip. Mr. James Taylor of Kalamazoo has also furnished us Steele's Red, Golden Russet, and other winter sorts.

THE VERMONT STOCK JOURNAL.—This journal, established by Mr. Linsley, the author of the Essay on Morgan Horses, enters upon its second year. It is devoted solely to the treatment of stock, and especially to horses. It is published monthly at 50 cents per year. Mr. Linsley is making it a very attractive periodical. Its place of publication is Woodstock, Vermont.

THE ATLANTIC MONTHLY.—This new periodical is received with general favor. It has reached the third number, and each one has given evidence of a great amount of talent of the best kind. There is just one fault we feel inclined to speak of. It is too insular. As yet, the whole tone of its poetry and much of its prose, gives it a kind of New England savor, which, we doubt not, is acceptable enough to Boston and its dependencies; but here at the West, we want something more. Raymond and Selleck of this city are its agents.

THE HOME JOURNAL.—With the new volume of this journal of "upper tendom," and the elegancies of intellectualism, Mr. N. P. Willi's announces a series of Scripture sketches, of which we have been favored with the first, entitled Rachel; a really beautiful poem.

✂ We hope those who desire able horticultural journals will give us the opportunity of supplying them with the Horticulturist or Hovey's Magazine of Horticulture. Either with the Michigan Farmer will be furnished for one year at \$2 50.

THE COSMOPOLITAN ART UNION.—It will be noticed that the division of the Works of Art, subscribed for by the members takes place on the 28 of January. Mr. Wm. B. Howe, of this city, will supply those who desire, with tickets of membership, and by which they are entitled to all the privileges of the Society.

The Students of the Agricultural College.

The Agricultural College commenced its second term on the 8d of December; with ninety-six students, of which only about one half continue from the previous term. Some of those who were present at the summer term have left for the purpose of teaching school during the winter, to obtain the means to enable them to prosecute their studies for the future.

New arrangements of the buildings now permit nearly one hundred pupils to be accommodated; and it will be seen that twenty-two counties in the state are now represented as follows:

Allegan,	1	Lenawee,	2
Barry,	1	Livingston,	9
Berrien,	2	Macomb,	2
Calhoun,	4	Monroe,	8
Clinton,	5	Oakland,	7
Eaton,	5	St. Clair,	1
Genesee,	3	St. Joseph,	1
Ingham,	12	Shiawassee,	5
Ionia,	2	Van Buren,	2
Jackson,	6	Washtenaw,	4
Kent,	2	Wayne,	14

The following table furnished by Mr. J. C. Holmes gives the names, post office, and county of each of the pupils now in attendance at the College:

Name of Student.	Post Office.	County.
Gad M. Adams,	Chelsea,	Washtenaw.
Henry C. Alford,	Flint,	Genesee.
John Allport,	Dexter,	Washtenaw.
Isaac B. Bailey,	Leoni,	Jackson.
Adams Bayley,	Big Beaver,	Oakland.
Leonard V. Beebe,	Stockbridge,	Ingham.
Isaac D. Benham,	East Windsor,	Eaton.
Henry D. Benham,	" "	" "
Samuel S. Benham,	" "	" "
I. N. Branch,	Stockbridge,	Ingham.
Harvey Bush,	Fowlerville,	Livingston.
Wm. Bush,	" "	" "
Wm. Boudiah,	Waterloo,	Jackson.
Henry Benson,	Detroit,	Wayne.
Charles M. Bowen,	Chelsea,	Washtenaw.
Emery L. Brewer,	Bennington,	Shiawassee.
Edwin B. Bigelow,	Detroit,	Wayne.
Russel B. Callahan,	Sanford,	Ingham.
P. C. Carpenter,	Orion,	Oakland.
Wm. W. Carpenter,	Howell,	Livingston.
Mason D. Chatterton,	Sanford,	Ingham.
Walter M. Chester,	Detroit,	Wayne.
Daniel L. Case, Jr.,	Lansing,	Ingham.
Henry C. Christiancy,	Monroe,	Monroe.
Albert E. Cowles,	Lansing,	Ingham.
Henry M. Curtis,	Howell,	Livingston.
John A. Curtis,	Smithfield Centre,	Oakland.
Erwin Comstock,	St. Clair,	St. Clair.
Wm. D. Castle,	Bennington,	Shiawassee.
John J. Calkins,	Deerfield,	Lenawee.
Edward G. Clark,	Monroe,	Monroe.
Stephen W. Duncombe,	Keeler,	Van Buren.
Gilbert A. Dickey,	Marshall,	Calhoun.
Jacob G. Du Bois,	Felt,	Ingham.
Wm. F. Don,	Detroit,	Wayne.
Geo. C. Everts,	Grand Rapids,	Kent.
Chas. E. Farrington,	Milan,	Monroe.
Thomas W. Farrington,	" "	" "
Chas. A. Foote,	Detroit,	Wayne.
Stephen Galloway,	Hamburg Village,	Livingston.
Wm. M. Green,	Lansing,	Ingham.
Wm. C. Green,	Pontiac,	Oakland.
Alfred G. Gunnison,	De Witt,	Clinton.
Jas. H. Gunnison,	" "	" "
Oreanus B. Gunnison,	" "	" "
Warren Gallup,	Jackson,	Jackson.
Northrup J. Gibbs,	Royal Oak,	Macomb.
Chas. E. Gregg,	Marshall,	Calhoun.
Josiah T. Hammond,	Jackson,	Jackson.
David E. Hinman,	Buchanan,	Berrien.
Chas. E. Hollister,	Nebraska,	Clinton.
T. S. Holmes,	Lansing,	Ingham.
W. B. Homer,	Detroit,	Wayne.

Name of Student.	Post Office.	County.
Geo. P. Humphrey,	Sanford,	Ingham.
Wm. J. Mill,	Jackson,	Jackson.
Geo. P. Haskell,	Monroe,	Monroe.
Henry H. Hawley,	Lyons,	Ionia.
Jared M. Knapp,	Assyria,	Barry.
Edward T. Kirkland,	Detroit,	Wayne.
Herman A. King,	Delta,	Eaton.
Newton J. Kinne,	Williamstown,	Ingham.
O. W. Lovell,	Wacousta,	Clinton.
Geo. W. Lamb,	Hudson,	Lenawee.
Mortimer Markham,	Gaines Station,	Genesee.
Orlando Markham,	" "	" "
Chas. J. Monroe,	Lawrence,	Van Buren.
Nathan D. Mussey,	Romeo,	Macomb.
Albert B. Macomber,	Detroit,	Wayne.
Albert McDonald,	Grand Rapids,	Kent.
Caleb Manchester,	Battle Creek,	Calhoun.
Allen B. Morse,	Otisco,	Ionia.
Geo. O. Nelson,	Detroit,	Wayne.
Edwin B. Osband,	Nankin,	" "
Thos. F. Powers,	Springfield Station,	Oakland.
Cornelius Paulding,	Monroe,	Monroe.
Lucien B. Phillips,	Pine Plains,	Allegan.
Wm. Preston,	Fredonia,	Washtenaw.
Merritt C. Skinner,	Lansing,	Ingham.
Merritt B. Snyder,	Hanover,	Jackson.
Wm. A. Smith,	Howell,	Livingston.
Edwin Smith,	" "	" "
Herbert S. Stoddard,	Monroe,	Monroe.
Samuel H. Sumner,	Detroit,	Wayne.
John D. Skinner,	West Windsor,	Eaton.
Henry St. John,	Monroe,	Monroe.
James Taylor,	Unadilla,	Livingston.
Seneca N. Taylor,	Oakland,	Oakland.
Wm. S. Fredick,	Marshall,	Calhoun.
James G. Traver,	Detroit,	Wayne.
Griffin D. Thurston,	Sturgis,	St. Joseph.
Geo. G. Torry,	Birmingham,	Oakland.
Jerome B. Ten Eyck,	Detroit,	Wayne.
Solon A. Whitcomb,	" "	" "
Albert L. Wells,	St. Joseph,	Berrien.
C. Wilcox,	Howell,	Livingston.
Jno. B. Williams,	Owasso,	Shiawassee.

Notes and Queries.

Wool.—The prices of wool are tending upward. Holders do not appear to have been affected by the crisis, and though few sales have been made, prices have not fallen. On the contrary prices seem both for foreign and domestic than they were a month ago. The spring business will undoubtedly cause a demand for woolen goods, Goodall & Co., of Cleveland state that 45 cents was offered for a large quantity of Merino & Saxon fleeces held in their city, but was refused. February and March will probably tell a more definite story than the present time.

Apples.—There seems to be a prospect of a demand for good winter apples to go east next spring. The New York Journal of Commerce states that apples in that city are scarce and high priced. The Newtown Pippins which gave a fine crop for export last year, have entirely failed this season. Prime apples, packed for shipment have been bought in New York by Mr. Gilmartin of Front Street for \$7, and \$8, per barrel.

Potatoes.—The rot having affected potatoes in Europe pretty badly; different methods have been resorted to for the purpose of evading it. It is well known that potatoes when dug may seem sound, but afterwards are found to have succumbed to the disorder, and to have become a dead loss. A Monsier Challet, a well known preserver of meats at Paris, has applied *Masson's* patent to the potato so that it is perfectly preserved. The editor of the London Gardeners Chronicle writes, that the preparation has been now in use for some time in his family, and where a dish of mashed potatoes is served up it is impossible to say whether it is from the prepared potatoes, or from freshly

boiled tubers. The economy of this preparation arises from the fact that one ton of the preparation is equal to four tons of raw potatoes, and a pound cooked with three pints of boiling water makes 4 pounds of excellent mashed potatoes fit for the table.

THE NEW YORK STATE AGRICULTURAL COLLEGE.—The trustees of the N. Y. Agricultural College met on the 11th of November last and have awarded to S. E. Hewes, Architect of Albany, the sum of \$250 for the plan and specifications submitted by him with other competitors for the College buildings. The executive committee have also been instructed to make contracts for the lumber and materials for the buildings. The president of the College also made a report on the farm, and its management the past season was very satisfactory to the trustees.

Memorial to the U. S. Congress.—The Michigan State Board of Education, and Faculty of the Agricultural College have adopted and sent to Congress the following memorial asking 500,000 acres of the public lands may be set off to it as a permanent endowment. We do not know that Congress could make a better investment, as the tendency of such institutions is to render the whole government lands more valuable, and to bring them under a system of productive cultivation as soon as possible. It should be the duty of the representatives of Michigan at Washington to urge forward this memorial, and if possible to procure the grant asked for.

To the Senate and House of Representatives of the United States:

The memorialists, members of the board of education of the State of Michigan and of the Faculty of the Agricultural College of the State of Michigan, respectfully represent that in obedience to a requisition of her constitution, the State of Michigan has established an agricultural college for instruction in agriculture and the natural sciences connected therewith; the State has appropriated *ninety-six thousand dollars* to organize it and promote its objects, most of which has been expended; that a farm of nearly seven hundred acres has been purchased and occupied, suitable buildings erected, a corps of professors appointed, who are engaged in their respective duties; and that the college has been in successful operation for more than six months, and that about one hundred students are now receiving instruction at the institution.

They further represent that the course of study is inseparably combined with a system of labor in the institution; that it is its design and policy to afford ample and thorough education of the student physically, morally, and intellectually; to ennoble the calling of agriculture, and teach men to increase the productions of the earth.

They further represent that to supply a deficiency in present systems of education, for which this institution is designed, and to develop its objects, will require the establishment of numerous and adequate professorships, and a larger, earlier and more permanent endowment to insure success than the legislature of any State will be likely to provide.

They further represent that in a country so thoroughly agricultural as the United States, and contemplating the nature of the great trust of the public lands with an enlightened and comprehensive forecast, no more legitimate and no more wiser disposition can be made of limited portions of them than for instruction of men in multiplying the productions of the earth, and thus conducing to their comfort and higher civilization.

Your memorialists therefore pray that five hundred thousand acres of the public lands of the United States be appropriated and conveyed by the general government to the constituted authorities of the State of Michigan for the use of, and to establish on a permanent basis, the Agricultural College of the State of Michigan.

Fish breeding.—A German gentleman named Muller has just put down about five million of the eggs of the Lake trout obtained from Lakes Ontario and Michigan, in streams leading into Lake Saltonstall, Connecticut. He has also put down about a million of the eggs of the white fish in the same lake. It is expected that in two or three years the fish will be of marketable size.

THE MACOMB COUNTY SOCIETY.—The Macomb county Agricultural Society, have chosen the following officers for the coming year:

President—H. CARTER, of Mt. Clemens.

Vice President—CALVIN DAVIS, of Macomb.

Secretary—JOHN WRIGHT, of Romeo.

Treasurer—CHAS. W. WESTON, of Utica.

Executive Committee—Harvey Mellen, of Bruce; James Flower, Richmond; Arates Smith, Washington; D. S. Priest, Ray; Carlos Brown, Lenox; Wm. A. Wales, Shelby; James B. St. John, Shelby.

Hungarian Grass seed is sold in Iowa at about a dollar per bushel, and is very plenty. This grass is considered very valuable on the dry prairie soils.

THE CUMMINGS STALK CUTTER.—After a thorough trial of this machine by hand power, we are pleased to note that it cuts all kinds of fodder hay, straw and cornstalks with a facility and completeness that make it a favorite whenever it is known. A peculiarity about this cutting machine is that it cuts with an upward stroke, and does not crowd the material into one corner, while in operation.—Its cut is clean, on the shears principle, and the chaff it makes is left in good order to mix with bran and middlings.

The returns to the State Auditor of Ohio for the present year show that there are nearly half a million more hogs in the State in 1857 than there was in 1856, whilst the number of cattle is nearly the same.

The United States Agricultural Society holds its Sixth Annual Meeting at the Lecture Room of the Smithsonian Institution in Washington, on the 13th day of January. The election for officers will be then held, and the reports of its proceedings for the past year will be made public. It will also determine what it will do in the future. Will its committee be able to decide which of the mowing machines shown and tried at Syracuse, proved the best?

An Ohio State Agricultural Convention, composed of delegates from the several county societies of the State, met at Columbus on the 18th of December. The chief question discussed was the permanent location of the State Fair. This question, however, was left unsettled, and resolutions adopted deciding it inexpedient to give the State Fair a permanent location in any one place for the present.

The Lansing Republican gives the following as the results of an analysis of the coal now mined at Owosso, in Shiawassee county:

Carbon,	-	-	-	-	80,801
Hydrogen,	-	-	-	-	7,778
Oxygen,	-	-	-	-	649
Nitrogen,	-	-	-	-	1,475
Sulphur,	-	-	-	-	3,081
Meisture,	-	-	-	-	1,660
Ash,	-	-	-	-	5,111
					100,000

A SORGHUM CONVENTION.—A call is issued by the Secretary of the Illinois State Agricultural Society, for a meeting of the Northern Sugar Cane Planters, which is to be held at Springfield, on Thursday, the 7th of January, 1858. This meeting is designed to promote an interchange of opinion amongst those who design to enter extensively into the growth of the Sorghum another year.

We notice that complaints are being made in Kentucky that much of the corn is rotting in shock. The same complaint is being made relative to the corn in Ohio, Illinois, and Indiana.

J. B. Freeman in the *New England Farmer*, declares that pumpkin seeds have the effect of drying up milk cows; and that cows fed on pumpkins without the seed increased their milk, whilst the reverse was the fact when seeds were left so that they too were eaten with the pumpkin.

Wrapping paper has been made from the bagasse or straw of the Chinese Sugar cane left after passing the mill.

Amongst the inventions we noted as good at the National Fair, was a self-acting well, by which animals were able to draw water for themselves from a depth of 16 feet. This was the depth we saw in operation, and it seemed as if the principle on which it acted could be applied to a greater depth.

Stock Sales.—Mr. Heydenburgh of Kalamazoo has recently purchased from Mr. J. B. Crippen of Coldwater, a two year old heifer named Branch County Belle, sired by Locomotive and a yearling, named Alice Carey; the latter is sired by imported Morning Star, a bull brought into Ohio from Scotland, by the Shakers in 1854. Mr. Henry Warner of Dexter has also purchased from the same gentleman, the yearling heifer Gipsey, which took the first prize in her class at the late State Fair. This heifer is also sired by Locomotive, 645 of the Am. Herd Book.

A Mr. White, of Virginia, has bought in England one of the most celebrated thorough-bred stallions which he could find. This horse is named "Fly-by-night," and is sired by Flying Dutchman, out of Flapper, a mare sired by Touchstone. Fly-by-night is described as a strong legged horse 15½ hands high, but one of the best runners this season in all England. Touchstone it will be noted, is the grand sire of Mr. William's horse Stone Plover.

The winter.—Mr. M. Ryan, the somewhat noted observer of the weather makes the following observations relative to the winter in the Paw Paw Free Press:

"The signs for the winter are one third milder than those of last winter. This is a lunar calculation as to the number of days in a moon is to the number of days in a moon-and-a half; or, as 28 is to 42; and within two points of the winter of 1852. God has "tempered the wind to the shorn lamb." There are thousands out of employment—we shall have a mild winter and an early spring. Improve the sleighing when it comes for it will not stay as it did last winter."

The Growth of Cattle.—It will be recollected by readers of the *Farmer* that we noticed a steer which had been selected by Mr. Samuel Lyndon of Canton last July. During a brief visit to that section of country, he gave us the following table of his weight since his purchase on the 28th of June, when he weighed 150 pounds:

July 11,	1574 lbs.	gain, 74 lbs. in 13 days.
August 9,	1668 lbs.	loss, 126 lbs. in 30 "
August 19,	1458 lbs.	gain, 10 lbs. in 7 "
August 29,	1504 lbs.	gain, 46 lbs. in 13 "
Nov. 1,	1857 lbs.	gain, 353 lbs. in 63 "
Nov. 20,	1945 lbs.	gain, 89 lbs. in 20 "
Nov. 30,	1982 lbs.	gain, 36 lbs. in 10 "

Total gain from Aug. 26 to Nov. 524 in 105 days.

This is one of the most noted instances of increase with which we are acquainted. It will be observed that there is a loss during the latter part of July. At that season all Mr. Lyndon's cattle were taken with the scours, and this one among them, and he lost flesh so fast that it was feared he would not recover. They were taken out of the pasture, however, and fed on straw and bran for a short time, and when recovered put in a drier and better drained pasture than that which they had been in.

From that time to the present, the growth of the steer has been as we have recorded, and it shows the value of a

well regulated cattle scales to the feeder, as it enables him to know what his animals are doing.

It will be seen that this steer gained over 5 pounds 9 ounces of flesh each day for a period of 63 days, and that as the weather grew cooler he fell for 20 days to nearly 4½ pounds per day, and that for ten days previous to the first of December, his average gain per day was a little over 3½ pounds.

It must be borne in mind that this steer was selected by Mr. Lyndon to feed against any animal in Michigan or the United States, and to make him weigh 2500 pounds at the least cost within the year. As yet this steer has not been fed to fatten, he has only been fed to promote his growth. When we saw him in December he was in a fair condition to begin to lay on both flesh and fat. He had his flank well let down, and the muscular substance on his loins, sides, buttocks and thighs, was full, fine, and healthy, but without showing signs of fat or the laying on of tallow. If there is any feeder who is anxious to enter an animal against this one, we shall be pleased to hear from him at any time. We believe Michigan can take the palm from any State in the Union on fat cattle and fine wool.

Mr. Lyndon has now a pair of heifer calves, which, on the 28th of December, 1856, weighed together 960 pounds. On the 12th of last December these heifers were weighed again, or in less than a year by 16 days, and one was found to weigh 950 pounds and the other 880 pounds, showing a gain of an average of two and one-half pounds per day during the whole 350 days.

Again, on the first of October 1856, Mr. David Uhl weighed a yearling white steer, which has shown a great rapidity of growth, and found that its weight was then 1166 pounds. On December 14th, we had this steer and his mate, another two year old about six months younger, taken to the public scales at Ypsilanti village, and there weighed. The white steer was found to weigh 1650 pounds and the brown one 1330 pounds. From this it will be seen that the white two year old had gained in a little over a year not quite 500 pounds. He was not fat, nor had he been fed to fatten; he had been fed to promote his growth. All these animals had more or less of the improved short horn blood in them, being from half to three quarter grades. Should any of our readers be aware of native cattle making equal growths we should be pleased to hear from them.

The Markets.

The markets for agricultural produce during the past month has undergone very little change. Navigation is now closed, and, as a consequence, there is only the milling demand for wheat. As our best country brands of flour sell at rates ranging from \$2.75 to \$4.00 per bbl., the price of wheat cannot average over 80 cts per bushel, and we accordingly find that from 75 to 80 cents is all that the very best wheat will bring. We still feel confident, that, with the resumption of business in the spring, there must be a change for the better, especially as prices have now got so low that they cannot well be less. Neither can the demand be less than it is now for all kinds of produce.—The shipments of wheat and flour to Great Britain, during the present season, though less than those of last year up to this time, have been but little behind those of 1855. It is true that as yet the manufacturing classes there have not yet begun to feel the pressure of the times, but we note that symptoms of it are beginning to manifest themselves. This will probably make the winter a dull one for a foreign demand for breadstuffs, and have a tendency to keep

produce down by checking the export demand. We see, however, that complaints are made that the destruction of the potato crop by the rot is very general. This and the light exports of the fall, must leave the foreign market very open for export in the spring, and we hope to see prices better. The Liverpool market now shows a margin of three to four shillings sterling on a barrel of flour, after all the decline that has been. The eastern supply for winter has also been light as it is well known, and though the railroads may partly supply it, their high rates prevents a liberal supply being sent forward, or received. Corn promises also to be a valuable crop, where it is well cared for through the winter. Much of the crop is very green and soft, and where it is not well ventilated it is heating and spoiling. In some parts of Indiana, they are fearful they will not have enough left for seed. Now corn is very low just now, selling at 20 cents per bushel of ears.

Pork sells at tolerably fair prices. Heavy hogs bring from \$4 75 to \$5 25, but this is only for the choicest carcasses. Good common hogs, weighing 200 to 250 lbs., sell from \$4 50 to \$4 75. There has been a good packing demand in this city, during the latter part of the month.—Beef continues low, and little of any change has taken place in prices during the month. The best will not pay over \$3.00 on foot, while the rates at the east, with the advanced freights are not such as to encourage buyers to run much of a risk. The banks at the east, in some cases have resumed specie payments, and there is much more confidence felt among the business community. Though it is not to be expected, that business will resume with all its energy in the spring, we think it will open better than many croakers expect, but high wages must not be looked for either by the laborer or the manufacturer, the farmer or the mechanic.

The Markets.

BREADSTUFFS AND GRAIN.		SEEDS, PLASTER, SALT, &c.	
Flour, bbl.	\$4.00 a 5.00	Clover per bush.	\$7.00 a 7.50
Cornmeal, 100 lbs.	1.50 a 0.00	Timothy,	3.50 a 4.00
Buckwheat, 100 lbs.	1.37 a 1.50	Red top,	1.75 a 2.00
Wheat, bush.	0.75 a 0.80	Blue, grass,	8.00 a
Corn, bush.	0.60 a 0.65	orchard grass,	3.00 a
Oats, bush.	0.25 a 0.28	Sandusky plaster, bbl.	1.25 a
Barley, per 100 lbs.	1.00 a 1.12	rand River,	1.50 a
BEEF, MUTTON, &c.		N Y Flower,	1.13 a
Beef on foot,	\$2.50 a 3.00	Sandusky water lime,	1.50 a
Beef dressed,	4.50 a 5.50	N Y do.,	1.31 a
Sheep, dressed per lb.	0.34 a 0.05	salt fine bibb,	2.70 a
Sheep on foot,	1.50 a 3.50	do coarse,	2.25 a
Hogs (rib cut, per 100.	5.00 a 5.50	MISCELLANEOUS.	
Turkeys,	1.00 a 1.25	Apples per bush.	0.40a 0.60
Chickens, pair,	0.25 a 0.75	White flax, half bbl.	5.00 a 5.50
Geese,	0.37 a 0.50	White beans per bush.	1.45 a 1.50
Eggs per d.	13 a 0.00	Sheep pelts,	0.35 a 40
Butter, per lb fresh.	18 a 20	Hay timothy, ton,	10.00 a 10.00
do firkin.	14 a 17	Common,	7.00 a 9.00
Cheese per lb.	9 a 11	Honey,	20 a
		Potatoes,	0.30 a 0.40

A RETIRED PHYSICIAN To Years of Age

WHOSE sands of life have nearly run out, discovered while in the East Indies, a certain cure for Consumption, Asthma, Bronchitis, Coughs, Colds, and General Debility. The Remedy was discovered by him when his only child, a daughter, was given up to die. He had heard of the wonderful restorative and healing qualities of preparations made from the East India Hemp, and the thought occurred to him that he might make a remedy for his child. He studied hard and succeeded in realizing his wishes. His child was cured, and is now alive and well. He has since administered the wonderful remedy to thousands of sufferers in all parts of the world, and he has never failed in making them completely healthy and happy. Wishing to do as much good as possible, he will send to such of his afflicted fellow beings as request it, this recipe, with full and explicit directions for making it up, and successfully using it. He requires each applicant to inclose him one shilling—three cents to be returned as postage on the recipe, and the remainder to be applied to the payment of this advertisement. Address
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THE Proprietors of the Jackson Nursery having entered largely into the Nursery business, offer for sale a superb stock of

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These are large and handsome trees. Also a superior lot of

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With a general assortment of Small Fruits.

And a variety of Ornamental Trees and Shrubs. Also a superior lot of

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Well cultivated and grown on dry soil. Also a splendid assortment of

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Containing many new and popular varieties, all of which will be sold on reasonable terms, and warranted true to label.

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Jackson, Mich., Oct. 1st 87.

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DR. CAVANAUGH—Dear Sir, I wish hereby to make known to the afflicted that I have been troubled with the Piles for twenty years or upwards, and at times most severely. And during a recent and exceedingly painful attack, a friend procured a box of your Salve and asked me to give it a trial. I did so. Not, however, with the expectation of benefitting my disease, for truly, I had tried so many applications I had lost confidence in all. But in making use of your Salve, I soon found that it was doing me good; and really it is incredible to myself, that with only about two weeks use of your Salve, I am, so far as I can judge, a well man.

I most cheerfully make this statement, believing it due both to yourself and such as may be afflicted with the most trying and painful disease. I do not hesitate to say that I consider your preparation an invaluable remedy for the Piles.

Most sincerely yours,

H. N. REALL.

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JACKSONVILLE, Ill., Nov. 15, 1851.

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J. B. CRIPPEN.

Coldwater, Michigan, Aug. 24, 1857.

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